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CLINICS.

Clinical Lectures.

ON THE TREATMENT OF THE VARIOUS FORMS OF CONSUMPTION,

DELIVERED AT JEFFERSON MEDICAL COLLEGE HOSPITAL.

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PROF. OF MATERIA MEDICA AND THERAPEUTICS IN THE JEFFERSON MEDICAL COLLEGE, PHILA.

GENTLEMEN: We have had before us recently a number of typical examples of the different forms of phthisis; their distinctive clinical features have been pointed out, and details of the symptomatic treatment have been briefly indicated. It may be conducive to a clearer comprehension of this important topic if we now review the subject of the treatment as a whole, to ascertain how far the pathological conditions may guide and control the therapy, and to note the more recent contributions to our resources.

I will take it for granted, as generally believed, that there are three distinct forms of pulmonary consumption: Chronic, catarrhal, or caseous pneumonia, which is an essentially inflammatory disease; chronic tuberculosis, with special direction to the pulmonary parenchyma, which is a diathetic malady; and fibroid phthisis, which is a chronic interstitial pneumonia ingrafted on a chronic bronchitis. It must be obvious that if this classification has a proper basis, it does not suffice to propose a plan of treatment for consumption, but our therapeutical methods must be guided and controlled by the pathological conditions. Whilst this is true, there are certain general principles of treatment applicable to all forms. I purpose to consider these first—they are climate and personal hygiene.

In considering the subject of a suitable climate for a pulmonary invalid, I will not go beyond the limits of the United States, within which are contained the utmost variety, and, indeed, the perfection of health resorts for this purpose. In the absence of any statistical data showing the results of prolonged residence in particular localities which might indeed settle the question, we have some general principles to guide us, too little

regarded by the profession, but of great value. We owe to Dr. Bowditch, of Boston, the eminent physician and sanitarian, the first principle, which he established for Massachusetts, and which has been confirmed on a larger scale for England. The Bowditch generalization is, that there is a constant ratio between the number of cases of consumption and the amount of water—rainfall and collections of water in streams, ponds, and lakes. This principle is not applicable to the ocean, where other conditions obtain. Certain parts of England, having had a large mortality from consumption, present a very different report since suitable drainage works have been put into operation. You need only to cast your eye over the elaborate Atlas of Medical Geography, by Lombard, to see how large a part excess of moisture plays in the geographical distribution of phthisis. All along the sea-coast are traced the deeply shaded lines, whilst in the elevated interior regions the mortality has disappeared. It is true that density of population and other evil hygienic influences are at work, but excess of moisture is a large factor.

Next to dryness of soil and climate as a remedy for consumption is elevation. This fact stands out as conspicuously in the great Atlas of Medical Geography as the previously considered influence. In the elevated regions—the great plains and plateaus of India, Africa, and America—phthisis is almost unknown (Lombard, vol. iv. p. 420). Elevation has an important influence in the relief of phthisis, because the air is dry and rarefied. Breathing rarefied air lessens the intrathoracic pressure, increases the rate of the respiratory movements and the rapidity of the pulmonary circulation. Residence in a rarefied atmosphere increases the rapidity of the circulation and the amount of blood in the peripheral vessels. The influences of these factors in promoting digestion, assimilation, and tissue metamorphosis are unquestionable. Uniformity is only less important as a requisite for a climate for pulmonary invalids. The reason of this requirement is obvious. Those invalids in a condition to be benefited by out-door exercise need an equable temperature in which to pursue their sports or recreations with safety. But more important than this is the bad influence of a variable climate in causing attacks of bronchial catarrh, a morbid process so much concerned in the production of caseous phthisis. Applying these principles to the question of a climate for consumptives, I place first on the list the great plains and plateaus of our interior continent, next certain parts of California, then a limited district, of which Aiken, South Carolina, may be regarded as the centre, and lastly, the upper lakes and Minnesota and the Red River of the North. In the limited space of a clinical lecture it is quite impossible to go further into details on the subject of climate.

Amongst the questions of personal hygiene, alimentation is the most important. And here, gentlemen, I have some important facts to submit to your consideration. We owe to Hughes Bennett the important practical suggestion that the initial disorders of phthisis are stomachal—that before any pulmonary trouble arises there is a period during which the organs of digestion do poor work, prepare the aliment imperfectly, and hence the nutrition of the body declines. That acute minded physiological surgeon, Mr. Jonathan Hutchison, has investigated this, as so many other subjects, in a quite original manner, and he finds that almost universally a form of dyspepsia precedes phthisis. In fact it is a matter of common observation, that the individual is out of condition, is losing ground, and this long before the manifestations of pulmonary lesions of any

kind. A chronic gastro-intestinal catarrh is present, and one of its special features is that the patient has a positive distaste for the fatty constituents of the food, and that the power to digest fats is much impaired. In a disease characterized by failure of nutrition, and in which the process of repair is so feeble, it is of the utmost importance to maintain the digestion and assimilation at the highest efficiency. There is a general agreement on this point, and hence no sooner is the diagnosis of phthisis arrived at than the injunction of active feeding follows. Without any attempt at correcting the morbid state of the digestive organs, they are plied with the richest hydrocarbons, with a tablespoonful of cod-liver oil before each meal, by way of appetizer, and a tablespoonful or more of whiskey after meals as a digester. It results from this method that the appetite is utterly destroyed, and the food, swallowed with disgust, is either rejected or remains to distress. I hope you will always bear in mind that it is not the quantity of food swallowed, but the amount digested and assimilated which is important to the welfare of the individual. The diet, then, should be carefully regulated to the requirements of the individual. Let me now give you a practical hint, on which you will be able to act with great good to your patients. *A period of rest to the stomach by a minimum diet will enable the organ to recover from the morbid state, and will induce a great appetite.* Acting on this rule, I have repeatedly effected great improvement in the condition of phthisical subjects at the initial period. Put the patient on milk for a week or two, and then gradually construct a suitable dietary. To remove the condition of gastro-intestinal catarrh there are several remedies on which we may rely with confidence. Arsenic stands first, probably, and is to be given in small doses—two drops—three times a day, before meals. Scarcely inferior to arsenic is the combination of iodine and carbolic acid: ℞. Tinct. iodinii ʒj, acid. carbol. ʒss. M. Sig. One to two drops in a tablespoonful of water three times a day, before meals. The oxide and nitrate of silver are also highly serviceable, but unfortunately they cannot be continued long, owing to the danger of argyria. The mineral acids, if the digestion merely flags, or if the previous remedies have been taken for a sufficient time, are very important remedies. I have seen some striking results from the use of the nitro-muriatic acid during the initial stage, but the action of this remedy in changing morbid states of the mucous membrane and in promoting appetite and digestion is the secret of any curative power it possesses. The alkaloid strychnia, dissolved in diluted muriatic acid, makes a useful combination, for strychnia is probably the most effective agent which we possess for arresting the vomiting of phthisis.

If the morbid state of the mucous membrane has been removed, and the appetite restored, then we may consider the question of forcing the nutrition by increasing the performance of the assimilative organs. Now we may give cod-liver oil, and aid its digestion by the administration of malt liquors or alcohol in some form. It should be given after meals, to be digested and assimilated with the other foods. It is a great error to administer the oil, as is so often done, on an empty stomach and some time before the meal, because it will spoil the appetite, and keep the stomach at work during its proper period of repose. Furthermore, the quantity of oil taken should rarely exceed a teaspoonful, for this amount only can the digestive organs properly assimilate at one time. If it impair the appetite and cannot be digested it is useless, and should not be continued. Bernard has put us in possession of an important fact, which ought always to be

utilized—that is, that ether promotes the digestion of the oil when administered with it. Bernard's notion was that ether increases the flow of the pancreatic juice, and must therefore promote the emulsionizing of the oil. Whether or no the theory be correct, there has been accumulated sufficient testimony to show that the digestion of the oil is much more easily and perfectly accomplished by the addition of some minims of ether.

To what extent is the administration of alcohol desirable and proper in the treatment of phthisis? First of all, we should take our position firmly against a too prevalent notion that whiskey is in a certain degree antidotal, and that any case of consumption must be cured if only it is given early enough, and in sufficient quantity. This mischievous fallacy is so far from true, that we now know a form of degeneration of the pulmonary parenchyma is produced by alcoholic excess. Before hectic comes on, as a rule, the extract of malt and malt liquors are preferable to whiskey and brandy. When wasting proceeds rapidly, and destruction of the lung tissue is going on at the same pace, when the fever approaches more and more the septicæmic type, the stronger liquors are better, but at any period whiskey should be given instead of malt liquors, if it agrees better. Is there any guide to the proper administration of alcohol? I am perfectly clear that these are well-defined principles: That quantity of spirit which increases the appetite, and improves the digestion, is the proper quantity. An excess is hurtful, because the alcohol precipitates the pepsin from its solution in the gastric juice, and therefore suspends the production of peptones. A large quantity taken on an empty stomach is without influence on the digestion of foods, and whilst it affects the mucous membrane injuriously, after absorption acts on the hepatic cells. These reasons seem conclusive in favor of a moderate quantity of alcoholic food—say half to an ounce of whiskey—taken after each meal.

I will now pass to the consideration of particular forms of phthisis.

You have seen recently several cases of caseous phthisis, in which there were considerable areas of infiltration; the period of inflammation had passed, and the products accumulated in the alveoli of the lungs were undergoing caseation. Now the problem for solution in these cases is, How shall we obtain the softening and extrusion of the caseous material without destruction of the pulmonary tissues? Although it is generally held that we possess no direct means of acting on these caseous deposits, and that they can be removed only by the improvement which we may effect in the bodily condition, I have reason to believe that we can reach and act on them to a considerable extent. The salts of ammonia have the power to increase the alkalinity of the blood, to prevent coagulation of fibrin, and to dissolve the albuminous exudations. Whilst these remedies were administered I have repeatedly observed the absorption and disappearance of caseous deposits. It is obvious the smaller in extent and the more recent the more amenable to the action of the remedy. Probably the best mode of administration of the ammonia is to dissolve the carbonate in solution of the acetate (gr. v–x–℥ss), or when it is desirable to give the iodide with the carbonate, they may be administered in an emulsion together. The duration of the administration will be governed by the effect on the caseous deposits, and by the forbearance of the digestive organs, but the remedies must be used for many months in most cases. By giving them properly diluted before meals, and allowing the stomach periods of rest, they may be continued for lengthened periods without ill results.

The range of temperature, and the amount and kind of interference required, are very important subjects. With regard to the character of the fever it must suffice for me to insist upon the fact, which I have often stated, that the febrile movement of the stage of exudation and deposit is different in character from that of the period of softening and extrusion. The former is inflammatory; the latter septicæmic. During the inflammatory stage we are concerned to employ means to lessen exudation, and to favour its immediate liquefaction and discharge. These means are quinia, digitalis, aconite, jaborandi, etc. When, however, the alveoli are blocked with the caseous deposits our attention must needs be directed to secure a favourable disposition of this material. When the caseation is completed there is a temporary subsidence of the active symptoms, which may continue for some time; the fever abates notably or disappears; the general state correspondingly improves; the cough is less troublesome; the expectoration slight; and there is, in fact, a delusive appearance of returning health. The scene changes when the process of softening begins, and moist sounds are audible in abundance where bronchial voice and breath were heard a short time before. Now there is an extensive area of pus formation, and the fever which attends it is a septicæmic fever. Observe the attendant phenomena: there is a daily sensation of coldness, of chilliness, or a distinct chill, some time during the morning, and for a short time before it the temperature had been at normal or even below; then a fever comes on, the mercury rising to 103°, 104° F.; and the whole process terminating in a profuse sweat. In respect to this fever the practical point I wish to impress on you is, that the best means of keeping down the temperature are rest, and the administration of remedies to restrain the sweats, and to quiet the cough. By rest I mean a condition of repose without exercise, except such muscular movements as are required in dressing, in walking from one room to another on the same floor, etc. There are sound physiological reasons for this recommendation. Rest lessens the consumption of material, the wear of tissue, and the production of heat, and conversely exercise increases the consumption of material, wastes the tissues, and increases the production of heat. Applying the physiological data to the subject before us, I must admit that exercise is theoretically prejudicial to the phthisical suffering from septicæmic fever. I have made a number of careful observations with a standard thermometer to ascertain the effect of exercise on the daily temperature of consumptives in the stage of softening, and I have noticed a rise of from one to two degrees. Any observant physician, whose attention is directed to it, will not fail to perceive the disastrous effect of persistent exercise in respect to an exacerbation of all the symptoms. Whilst I thus strongly insist on the necessity for rest when there is any considerable elevation of temperature in phthisis, I do not mean to apply this dictum to all cases. In the cases of incipient phthisis, fibroid lung, and chronic forms, with little fever, I advise an outdoor life, and exercise consistent with the stamina of the individual. Experience has abundantly shown that in cases of consumption at the initial stage, an outdoor life of some considerable exposure, indeed, is permanently beneficial. Furthermore, gentlemen, I must relieve your minds of the impression, if you have received it, that I mean by *rest*, confinement to the foul air or other evil hygienic influences of the sick room. By no means. Rest is not incompatible with constant, or nearly constant, exposure to the external air, and this I always insist upon in prescribing the necessary regimen.

I come now to another symptom—cough—which usually taxes severely the resources of the physician. As cough prevents sleep, destroys rest, and is exhausting, the patients are clamorous for relief. Much coughing is a peculiarly severe form of exercise, and demands suppression or amelioration for this reason. The expedients are almost past computation—a sure indication both of failure and intractability. The reflex irritation proceeding from the fauces may be allayed by a gargle of bromide of potassium, by brushing over the mucous membrane a one per cent. solution of carbolic acid, or by atomizing a solution of morphia. The combination of diluted hydro-bromic acid, and spirit of chloroform proposed by Dr. Fothergill, does very well sometimes, but in general is disappointing. In fact there are no efficient substitutes for opium, and we must turn to this when the cough is severe and persistent. The most generally useful of the preparations and derivatives of opium is codeia. The grounds of its utility in cough, are these: it has a selective action on the pneumogastric nerve, allaying irritability of its end organs; it is calmative and hypnotic, and as compared to morphia is less excitant and less nauseant. Codeia is adapted to those cases in which the cough is largely nervous. It may be combined with strychnia when there is vomiting, and with atropia or picrotoxine when the sweats are profuse. The following are examples: ℞. Codeiæ sulph. gr. x, ext. hyoscyami ℈j. M. ft. pil. no. xx. Sig. One pill every four hours. ℞. Codeiæ sulph. gr. xvj, strychniæ sulph. gr. j, atropiæ sulph. gr. ½, acid. sulph. dil. ℥ij, aquæ ℥vj. M. Sig. Ten to fifteen drops three times a day. Morphia may be substituted for codeia in any of these prescriptions, by reducing the quantity one half. Carbolic acid exercises no little influence over cough, expectoration, and fever, and is most serviceable in allaying the reflex vomiting. It is best given in solution, as follows: ℞. Acid. carbolic. gr. viij, aquæ lauro-cerasi, aquæ ää ℥i. M. Sig. A teaspoonful every four hours. Carbolic acid is especially indicated in the fetid expectoration of bronchiectasis. In the cough of fibroid lung, and of the stage of deposit before softening in caseous pneumonia, I have had excellent results from the administration of iodide of ammonium in the wine of tar. ℞. Ammonii iodidi ℥ij, vini picis liquid. syrp. tolu ää ℥j. M. Sig. A teaspoonful.

Now, gentlemen, I come to the last topic which I can discuss to-day—night sweats. This is both an interesting and an important subject. It is interesting because of the striking results obtained by some new contributions to our therapeutical resources, and important because of the baleful influence of the sweats over the progress of the disease. If the sweats are profuse, there is an actual loss of material, of salts and organic matter, which represents waste of tissue. It is highly important to check this waste and preserve the material for the nutrition of the body. Until the recent observations of Dr. Murrell proving the great value of picrotoxine, atropia had the first place as a remedy for the night sweats of phthisis. I have usually given atropia with strychnia and morphia for the triple object of arresting the sweating, allaying cough, and stopping the reflex vomiting. It is not a little remarkable that the temperature is generally reduced by the combined use of these remedies. I have preferred to give the atropia with regularity three times a day, because of an influence over the progress of the disease, which seems to be independent of its anhydrotic power, and which can be explained only, on the supposition that it has the power to improve the nutrition of the lungs. Its introduction into use as a remedy for phthisis, has put a new phase on the prognosis of cases of caseous

pneumonia, not advanced to the stage of softening. Some practitioners prefer to give atropia in a single full dose ($\frac{1}{60}$th of a grain) at bed hour, but the results are better, if given in a small quantity ($\frac{1}{300}$th of a grain) the effect being distributed through the day. The susceptibility to the action of atropia varies greatly, and as immense discomfort may be produced by a medicinal dose, care is necessary to avoid unpleasant results. Recognizing the importance of the influence which atropia appears to have on the trophic system of the lungs, I have had patients take it for years at a time, and without any ill effects.

The success of picrotoxine as an hydrotic has been quite decided. Dr. Murrell finds that so small a quantity as the $\frac{1}{300}$th of a grain, given at bed hour, may arrest the sweating for a number of days. Although possessed of properties somewhat like those of strychnia, it is by no means so powerful, and may be given by the stomach up to $\frac{1}{30}$th of a grain. Dover's powder, and, oddly enough, pilocarpine occasionally acts, very decidedly as an arrester of perspiration—a capital illustration of certain kinds of physiological antagonism. But pilocarpine cannot be depended on for constant service. Take it all in all, atropia should be preferred in most cases, because of its apparent influence over the nutrition of the lungs. Whilst atropia is given, three times a day, picrotoxine may be exhibited at bedtime, if the effect of the former is inadequate.

There are other important topics connected with the treatment of phthisis which I would gladly enter on, if there were sufficient time, but in the facts I have laid before you will be found the main points from which the details may be easily derived. You will find, indeed, that treated according to the principles I have just developed, many cases of phthisis will be conducted ultimately to a safe termination, and you will learn to look with more hopeful confidence on the success of your management than you have probably done heretofore.

CATARRH OF THE BLADDER; ALBUMEN IN THE URINE.

Part of a Clinical Lecture recently given at University College Hospital.

By Sir HENRY THOMPSON,
Surgeon Extraordinary to the King of the Belgians.

There is a group of symptoms frequently met with in men of advancing years, to which I desire especially to call your attention. One of the first circumstances to attract notice is that the urine is more or less cloudy when passed, and that on standing it deposits some adhesive opaque matter in the bottom of the vessel. Such urine is generally neutral, or at best faintly acid; occasionally it is alkaline, always becoming so rapidly by keeping. On interrogating the patient, you learn that the act of micturition is performed rather more frequently than natural—that he is disturbed by it two or three times in the night, and every two hours or so during the day. He may also complain of dull pains about the pelvis and back; he finds the effort to pass water rather greater than it formerly was, and the general health has of late suffered a little.

Now it is by no means uncommon to hear this group of symptoms spoken of as indicating the presence of a "catarrh of the bladder." And catarrh of the bladder is very generally regarded as a particularly obstinate, sometimes indeed as an incurable, affection. And I am free to confess that as long as these phenomena

are considered referable to a specific disease, "catarrh," so long probably will the disease prove rebellious to treatment and sometimes even incurable.

Again, when the urine described is examined by the microscope, a quantity of pus, varying much in different cases, is seen to be present in it; and when examined by heat and nitric acid, a certain amount of albumen is, as a matter of course, deposited.

It happens to me, in the course of consultations, to observe that these phenomena—the admixture of pus with the urine and the presence of albumen—are, singly or together, frequently regarded in themselves, and apart from other facts, as necessarily presenting indications of very grave importance. Are they so?

Certainly they are by no means necessarily grave; on the contrary, in the great majority of cases of elderly men, the presence of these products is not grave. Let me demonstrate to you the marked distinction which exists between the significance which albumen possesses in two different categories of cases. I can scarcely ask your attention to a matter of higher practical importance.

1. When a patient's urine, habitually clear, acid, and free from the faintest blood-tint, throws down to the test of heat and nitric acid a notable quantity of albumen, the source of that albumen is the renal circulation, and, if persistent, the case is almost certainly one of grave import. The presence of organic change in the kidney structure is to be inferred, and other evidence of its existence, if sought for, will probably be found.

2. A very slight admixture of blood in any urine, no matter what the source of the hemorrhage, will produce a considerable deposit of albumen. It is evident, then, that the product in such cases, although sometimes grave, is not necessarily so, and that it may furnish an indication of the slightest possible import, inasmuch as a little blood may appear in the anterior passages, from a lesion which is slight and temporary in its nature.

3. Pus in the urine may, and most commonly does, proceed from some local condition of the bladder, occasionally, indeed, from local inflammation of the urethra. Nevertheless, albumen will be deposited on applying appropriate tests. It is evident that albumen, resulting simply from pus produced by chronic cystitis, has an import vastly less grave than that described above as No. 1, being a purely local and mostly temporary affection of an organ which has no vital function, but merely a mechanical one; the albumen in the former instance being evidence of disorganization in the structure of a vital organ—that is, one the sufficient action of which is essential to the very existence of the body.

In short, there ought not to be the slightest temptation to confound two states so utterly unrelated as the two states which I have here contrasted, although they offer from one point of view an accidental similarity—that is, there is in both an admixture of albuminous material in the urine.

Still, nothing is more common than to hear, in connection with a case of purely local bladder affection, the remark gravely and significantly made, "I assure you I have on several occasions found by testing a large quantity of albumen in the patient's urine." It is a little difficult sometimes, although necessary, to listen to such an observation with quite sufficient patience. Does the observer really desire to intimate that the patient has constitutional albuminuria—*i. e.*, some form of Bright's disease? If not, his remark is simply devoid of meaning; since, as we know, there is vesical pus in the urine, we know equally that the albuminous constituent must appear on applying the test. And vesical pus in the urine certainly has no more relation to constitutional albuminuria than pus which comes from an external abscess or surrounds a common boil. Simple as all this may appear to you and to me, it is quite astonishing how much confusion there is in men's minds in regard to this matter, and how much importance some

persons attach to all albumen found in a urinary test-tube, although the source of the deposit may be easily demonstrated to be the bladder, and no other part of the organs which lie above it.

Finally, the important practical point in relation to treatment is first to ascertain the occasion of the local catarrh. In nine out of ten of these cases it consists in inability, often only to a slight extent, on the part of the patient to empty the bladder completely. The universally acknowledged cause, hypertrophy of the prostate, is, of course, the first in order of frequency. But after this are others not infrequent. Defective action may be due, first, to simple atony, the result of past habitual or occasional over-distension of the bladder with urine; secondly, to thickened and incompetent muscular parietes of the bladder after chronic inflammation, sometimes associated with old stricture; thirdly, to defective innervation seen in connection with other slight signs of impaired function in a nervous centre; the last being, of course, the most serious of all, in its nature and probable results.

In all of these local treatment, by carefully removing all the secretion by means of a soft catheter two or three times a day, perhaps aided by gently washing out some remainder, is the chief efficient remedy. Remember that this incompetence of the bladder is always to be sought for by physical examination; no other form of evidence in relation to it, as the patient's sensation, etc., is to be accepted as trustworthy. The introduction of a soft catheter immediately after the patient has passed water by his natural efforts, is the only test, and it should be applied on two or three occasions before arriving at a definite conclusion. The causal relation between the group of symptoms enumerated at the outset, and the defective function described, is far more common than it is generally supposed to be. It is on this account, therefore, that I have asked your attention specially to the subject.—*Lancet*, Jan. 3, 1880.

Hospital Notes.

Case of Intravenous Injection of Milk.

Michael M., aged forty, was admitted into Jervis Street Hospital, Dublin, under the care of Dr. MELDON, on Dec. 4, 1879. About two years before, symptoms of phthisis commenced, and gradually increased until May last, when his friends were in daily expectation of his death. Dr. Meldon injected three and a half ounces of milk into his veins. The operation, which was not followed by any obstruction of respiration, gave him almost immediate relief from the feeling of weakness from which he suffered. His appetite returned; he slept well, and in a few days he was able to sit up. Soon after he was sent to the convalescent hospital, where he continued to improve, and in about six weeks was able to resume his occupation of a pawnbroker's assistant. During the summer months he improved very much, and increased considerably in weight. In November last he was attacked with pneumonia, after which he had a constant cough. The other symptoms of phthisis also returned, and increased until, unable to continue his employment, he sought admission into the hospital.

On admission both lungs were extensively diseased, and there was constant diarrhœa, which had reduced the patient to an almost moribund condition. His cough was most distressing, and he was unable to take any nourishment. As all efforts to improve his condition were of no avail, Dr. Meldon, yielding to his

patient's own urgent entreaty, consented to repeat the operation of injecting milk into the veins.

On the 13th of January, assisted by Drs. Cranny, Stoker, and Kelly, and in the presence of a large class of students, Dr. Meldon injected three and a half ounces of goat's milk, at a temperature of 100°, into one of the veins of the right arm. The milk, as usual, was rendered alkaline by the addition of carbonate of ammonia, and the goat was milked at the bedside of the patient. During the operation the man complained of pain and coldness in his back, but he stated he did not feel any difficulty in breathing or pain in the head. Soon after the operation the temperature rose from 99° to 104°; his breathing for a few hours was somewhat hurried, but there was no obstruction to respiration, as in many of the previous cases. The pain in the back and the coldness remained for some hours, but the patient slept well that night, and awoke next morning greatly improved in spirits and feeling much stronger. The diarrhœa was, as in all former cases, immediately checked by the operation. For some days he made steady progress towards recovery—his appetite increased, and his cough diminished.

Dr. Meldon, in his remarks to the students, said that the operation of intravenous injectment of milk had been received in Europe with very little encouragement, and even in New York, where there was every promise of the operation receiving a fair trial, it seemed to have fallen into disrepute. The present was the tenth case in which Dr. Meldon had performed the operation, and with a result that made him most hopeful of its success when performed in suitable cases and with proper precautions. As yet he had only resorted to it in cases where the patient's hours were already numbered. In all these cases life had been considerably prolonged, and in four the patients had been completely cured by the operation. The operation was quite free from danger if one or two points were attended to, besides those which had to be looked to in every case of transfusion. The two points which were peculiar to the transfusion of milk were, that care should be taken that the milk was alkaline, and that only a small quantity should be thrown in at a time, four and a half ounces being the largest amount that should be injected. Lately a good deal has been written against the operation. The opponents of the procedure might be classed under three heads: First, those who say it is *theoretically* wrong, second, those who argue from experiments on lower animals, and, thirdly, those who believe the globules of the milk are too large to pass through capillaries. The first and last of these may be met by pointing to the fact that several cases have been successful, and in no case where the operation has been performed with proper care with regard to the two special points which Dr. Meldon mentioned have injurious results followed.

With regard to the comparative experiments on dogs, the great error had been that healthy dogs had been selected, and, comparatively speaking, an enormous quantity of milk had been injected.

Dr. Meldon stated that he had no doubt if a healthy country patient was selected for the operation, and say forty ounces of milk injected into his veins, the result would be almost necessarily fatal. This really had been the kind of experiment on dogs, and it was not surprising that the conclusions drawn from these experiments should be so unfavourable.

The cases which Dr. Meldon had cured were all cases of pernicious anæmia, and he stated he could easily understand how in that disease a small quantity of corpuscule-supplying fluid might alter the condition of the blood, and thereby effect a cure.—*Lancet*, April 3, 1880.

MONTHLY ABSTRACT.

Anatomy and Physiology.

Congenital and Progressive Hypertrophy of the Right Upper Extremity.

Hypertrophy of one extremity or of one side of the body is of very rare occurrence, and cases have only been met with and reported by continental writers, with the exception of that of Mr. Adams, reported in the *Lancet* in 1858. The case recorded in this instance by Professor OSLER (*Journ. of Anat. and Phys.*, vol. xiv. part 1) occurred in a girl nearly nine years of age. The enlargement seems to have existed from birth, but had been passed over almost unnoticed for some time, till the great disparity in the size between the two hands attracted attention. When the case came under the observation of the author, the limb looked like that of a medium-sized man. The enlargement extended to the muscles of the shoulder, namely, the deltoid, pectoralis major, and trapezius, although to a less extent in the latter; the sterno-cleido-mastoid muscles, however, were of equal size. The right arm measured from the tip of the acromion to the styloid process of the radius 42 centimetres, whereas the left was only 37 centimetres, making a difference of five centimetres in the length of the two arms. The right humerus measured 3.1 centimetres longer than the left, so that the difference between the forearms must have been 1.9 centimetres in favour of the right. The clavicles did not vary more than they frequently do on the two sides of the body of a normal person. The circumference of the right arm, with the biceps extended, was 18.5 centimetres, while that of the left, with the muscle in the same state, was 15.6 centimetres. When the biceps was strongly flexed, the right arm measured 20.3 centimetres, and the left 15.9 centimetres. The circumference of the right forearm in its thickest part was 21.2 centimetres, while the left measured only 17 centimetres; the right wrist measured 15.5 centimetres in circumference, while the left was only 13.5 centimetres. Similar variations were found in the measurements of the hands, the right being larger than the left, in the same ratio that the right arm was larger than the left. The biceps was very strongly developed, as were all the muscles of the humerus. The right forearm showed a marked contrast to the child-like appearance of the left. The fingers were kept in the semi-flexed position, but all except the middle finger could be extended at will. The power over the fingers which the patient possessed seems to have been only gradually acquired by use, and the fingers were much more flexed when the patient was younger. The grip of the two hands was very marked, that of the right being much more powerful and strong than that of the left.—*London Med. Record*, March 15, 1880.

Materia Medica and Therapeutics.

Tayuya.

Recent investigations add weight to the estimation of the value of this drug in scrofula and syphilis. Various writers cited in the *Centralblatt für Chirurgie*

No. 48, 1879, give notes of fifteen cases of syphilis and one of ulceration of the lip of uncertain origin cured by tayuya within a month. ALPAGO NOVELLO gives the case of a girl, aged 9, suffering with scrofulous ulcers and submaxillary lymphatic engorgement, lymphoma of the neck, etc., who was much improved by the use of the tincture. Of two other similar cases, one was almost or entirely cured, the other much improved.—*Lond. Med. Record*, March 15, 1880.

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Bromide of Ethyl.

Dr. R. J. LEVIS, Surgeon to the Pennsylvania Hospital, has lately been using the bromide of ethyl as an anæsthetic, and has now had sufficient experience upon which to base some very decided impressions of its value. Its principal physiological characteristics which will concern the surgeon are its rapidity of action and the quickness of recovery from its effects. As far as observed by Dr. Levis, it does not influence the circulation, excepting to sometimes produce a slight increase in the rapidity of the heart's action and in arterial tension or pressure. The cerebral anæmia and the fatal syncope of cardiac depression, to which cloroform is liable, are dangers which do not appear to threaten in the anæsthesia of the bromide of ethyl. Respiration is but little influenced by the bromide of ethyl, beyond the ordinary characteristics of all anæsthetic sleep; but in this respect its action seems more to resemble that of ether than that of chloroform. Nausea and vomiting appear to occur less frequently in the anæsthesia of the bromide of ethyl than in that of ether or of chloroform, and the rapidity of recovery from its effects must render such impressions very brief and transient. Commencing with the occasional and very cautious use of the agent, Dr. Levis has recently adopted it to the exclusion of other anæsthetics.

Bromide of ethyl, or hydrobromic ether, is a colorless liquid, with a specific gravity a little greater than that of water. It has a decided and characteristic odor, which is thought to resemble that of chloroform, but is less agreeable. It vaporizes more readily than chloroform, and in this respect and in density is intermediate between ether and chloroform. It seems to be entirely eliminated through the lungs, and in this regard has a decided advantage as to safety over chloroform. The high vaporizing point of chloroform does not permit its rapid elimination from the body, and it is not entirely removed by the lungs. So, when some secreting organs happen to be, from disease, incapacitated, the nervous system is liable to become overwhelmed. The odour of the bromide of ethyl remains for a longer time on the breath of a patient than does that of ether or chloroform, but it seems to be quickly dissipated from the apartment in which it has been used. Its vapour is quite unirritating to the respiratory passages when inhaled, and in this quality has the advantage over both ether and chloroform.

General excitement and the tendency to struggle occur far less frequently than in the early stages of the anæsthesia of ether, and, apparently, even in that of chloroform. It is evident that the impression on the motor centres must be very rapid, and Dr. Levis estimates that complete anæsthesia is accomplished in one-third less time than is the case with chloroform. The recovery from its effects is even comparatively more rapid, in the greater number of cases the time not exceeding two minutes after the inhalation has ceased. Muscular co-ordination is so quickly regained that the patient is often able at once to stand and to walk on awakening from profound anæsthesia. The pupils dilate as soon as complete anæsthesia is induced, and, as the sentient state returns, they resume their normal condition. Dr. Levis suggests that the condition of the pupils may be an index and guide in the administration.

Anæsthesia with the bromide of ethyl is usually effected in from two to three

minutes. The most rapid production of complete insensibility, in Dr. Levis's experience, has been in one minute, in the case of a girl eight years old; the longest period has not in any case exceeded four minutes. When carefully administered, the quantity consumed has varied from one fluidrachm in the case of a child, iridectomy being performed, to eleven drachms used during an amputation of the forearm of an adult, occupying forty minutes, including the ligation of the vessels and the dressing of the stump.

The quantity of the article consumed in affecting anæsthesia will greatly depend on the method and manner of using it. Much of it is, of course, wasted by diffusion in the atmosphere. With great regard for economy, this waste may be prevented by imperviously covering the material on which it is poured. Dr. Levis's plan, with adults, is to pour two drachms of the bromide of ethyl on a small napkin folded up to a space of about four inches square, and then laid on a larger napkin, folded so as to be large enough to cover the entire face of the patient. It is well to secure the two napkins together with a pin.

The vapour of the bromide of ethyl is not inflammable; indeed, when dense, it extinguishes a flame if brought into contact with it.

Whilst feeling inclined to impress caution in regard to the use of so powerful an agent as the bromide of ethyl, Dr. Levis is, from a basis of experience, inclined to recommend its use to the profession.—*Philadelphia Medical Times*, Jan. 17, 1880.

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Subcutaneous Injection of Metallic Mercury.

Professor FURBRINGER, of Jena (*Archiv für Klin. Med.*), has made a large number of hypodermic injections of metallic mercury, and states that at the time of injection they are well borne, but within twenty-four hours inflammatory symptoms set in, and frequently result in abscess. If it be simply injected and not divided by subsequent rubbing, no mercury can be found in the urine, but it has been obtained in a reguline state under the skin at the end of a year and a half. However administered, a slow improvement of the syphilitic symptoms takes place. Metallic mercury is best borne when injected in an emulsion of mercury two parts, mucilage of acacia and glycerine each ten parts. One or two injections per week should be made. Fürbringer believes that this plan of treating syphilis by mercurial emulsion injections should be reserved for cases in which inunctions and internal treatment fail or in which it is not advisable to make frequent injections.—*Lond. Med. Record*, March 15, 1880.

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Uses of Physostigmin in Diseases of the Eye.

WEBER (*Arch. für Ophthal.*, and *Jahresbericht*) publishes his experience of the therapeutic value of physostigmin in various diseases of the eye, which he says increases the tension in the vitreous space and diminishes it in the anterior chamber. It acts in direct antagonism of atropia, which in a healthy eye lowers the tension in the vitreous space and raises it in the anterior chamber. He, therefore, recommends physostigmin in keratocele, in conical cornea, in ulceration of the cornea, as highly advantageous. In glaucoma, he found physostigmin very useful, and explains its effect, that by the contraction of the pupil the detachment of the ciliary margin of the iris from the periphery of the cornea is effected, and the filtration of the fluids of the eye through the canal of Fontana is rendered possible, and thus tension is diminished.—*Lond. Med. Record*, March 15, 1880.

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Nitro-glycerine as a Therapeutic Agent.

For some time past, nitro-glycerine has been used as a remedy for neuralgia, but has never attained anything like a wide popularity with the profession, proba-

bly on account of the disagreeable, not to say dangerous, effects known to follow an overdose. The case is recorded of a lady who, for many years, suffered from a most persistent neuralgia, which had resisted the best efforts of her numerous medical advisers. At last, it was determined to try the effects of nitro-glycerine, and she was given two and a half drops of a five per cent. solution in a teaspoonful of water. In the course of a minute or so, she complained of sickness and faintness. These rapidly increased, and there was for a few minutes unconsciousness, accompanied by stertorous breathing and convulsive action of the muscles of the face. She became deadly pale, the pulse was alarmingly feeble, and for a time she was undoubtedly in imminent danger. Some brandy and water was poured down her throat; she vomited, and the unpleasant symptoms gradually subsided. On recovering, she found that her neuralgia had left her completely, and, as it subsequently proved, permanently.

This is a remarkable case, but the fact of an overdose of a strong solution having been given is no argument against its employment, in a more dilute form, in the hands of a skilled observer. Both Mr. Field and Dr. Brady speak of it as an anti-neuralgic of the greatest value. It is not likely to supersede established remedies—such as quinine, chloride of ammonium, croton-chloral, phosphorus, and gelseminum—in the treatment of neuralgia; but still it may be found useful from time to time, and in obstinate cases. In addition to its use in neuralgia, it has been suggested as a remedy for tetanus, hydrophobia, sea-sickness, chloroform poisoning, and many other morbid conditions.

It is, however, as a remedy for angina pectoris that it will be found most useful. Dr. Murrell's cases show that, in the treatment of this terrible complaint, it is an agent of the greatest possible value, worthy to be ranked with nitrite of amyl. It is now in general use in most of our London hospitals, and in many cases it has effected a complete cure. A very striking account of the benefit derived from its employment has been published by Mr. Jameson, of Caistor, who suffered very severely from angina pectoris. At Dr. Murrell's suggestion, he began by taking two minims of the one per cent. solution every three or four hours during the day. He always found relief if he took the dose when he felt the first threatening of the attack, and the paroxysm was staved off. He continued taking the two-minim dose regularly every three or four hours for four days, and, as the attacks did not trouble him so much, he began to diminish the frequency of the dose, and took it only when he felt an attack threatening. He says: "I always carry an ounce and a half bottle of the diluted solution in the breast pocket of my coat, the bottle carefully marked for six doses, each dose containing five minims of the one per cent. solution. If I feel an attack coming on, I apply to my bottle, and at once feel that I am saved from a paroxysm. The action of the medicine seems to commence the moment it is swallowed, just as Dr. Murrell describes. It produces always a feeling of fulness in the head, singing in the ears, and a sensation of pulsation all over, especially in the head, severe at the root of the nose, as if epistaxis were threatened. I do not suffer from headache, and the congested feeling soon goes off. It is a great boon to have a remedy in which you can have perfect confidence that the attacks can be controlled. I have not had any severe attack of the disease since I got the solution, and began to take the drug, six weeks ago."

The nitro-glycerine can be obtained in solution either in alcohol or in ether, but the former is usually preferred. It is difficult to lay down any absolute rule as to dosage; but it is a good plan to begin with a drop of the one per cent. solution—or, in the case of a delicate woman, even less—and gradually to increase it until the full physiological action is produced. A dose may be administered at stated intervals—*e. g.*, every three or four hours; but it is best to be guided by

the urgency of the symptoms, and to give it only at the threatened onset of an attack. The condition of relaxation of the bloodvessels, as shown by Dr. Fancourt Barnes's sphygmographic tracings, usually lasts about half an hour. At first, headache is often a source of inconvenience; but tolerance in this respect is soon established, and the patient ceases to complain. It is undoubtedly, in many cases, a nuisance to have always to carry a bottle of medicine about in the pocket, and an attempt has been made to put up the nitro-glycerine in a more portable form. Mr. Martindale has recently shown that it is soluble in melted cocoa butter, and this mass may be employed as a basis for making pills. The great objection to the pills is that they do not act so quickly as the spirituous solution, unless munched up in the mouth, and the idea of having to chew pills is anything but a pleasant one. A better plan is to add an equal quantity of chocolate-paste to the pill-mass, and then to roll it out and cut it into lozenges, which can be made of any desired strength.

It is often asked if nitro-glycerine can be dispensed with perfect safety, and this question we can answer most positively in the affirmative. With the most ordinary care, it would be impossible for an accident to occur. There would naturally be objections to manufacturing nitro-glycerine in the midst of a crowded city; but there can be no danger in keeping the one per cent. solution in small quantities for medicinal use. The pill-mass may be thrown on the fire, or hammered on an anvil, without any danger of explosion; and it has not been found necessary to adopt the suggestion of a daily contemporary, and label each box of pills: "Explosive, with care: containing dynamite." Nitro-glycerine can be used in medicine with perfect and absolute safety. It has already proved of such service, that it is to be hoped that the one per cent. alcoholic solution may find a place in the next edition of the *Pharmacopœia.—British Med. Journal*, March 27, 1880.

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Odourless Iodoform.

No satisfactory method of disguising the penetrating odour of iodoform has yet been proposed. The following formula, however, it is asserted by Dr. Lindemann (*Allgemeine Medicin. Central-Zeitung*, 1879, No. 74), does away with the smell entirely: ℞. Iodoformi, gr. xvj; bals. Peruviani, gr. xxx; vaselini, adipis, ung. glycerini, āā ʒij.—M. If desired in a fluid form, the following formula may be employed: ℞. Iodoformi, gr. xvj; bals. Peruviani, ℥iiss; alcoholis, glycerini, collodii, āā ʒiij.—M.—*Lond. Med. Record*, March 15, 1880.

Medicine.

Benzoic Acid in Acute Articular Rheumatism.

Dr. Senator (*Zeitschrift für Klinische Medicin*, Band i.) has given benzoic acid in forty-six cases of rheumatic polyarthritis. Small doses were given at first, in order to guard against irritant effects; and, finally, 10 to 12 grammes (150 to 180 grains) of the acid, or 12 to 15 grammes or more of benzoate of soda, were given daily; the acid itself in the form of powder, boluses, or capsules; the salt in a solution of 10 to 15 per cent. in aromatized water, with or without sugar. The results of the observations may be summed up by saying, that benzoic acid is a remedy of high value in acute articular rheumatism, though inferior to salicylic acid. Of twenty-two cases of acute articular rheumatism, twenty-one were

cured within a period varying from two to seven days; in one case, where the disease was of longer duration, the time required was eleven days. The action of salicylic acid is more decided than that of benzoic acid, which is gradual. Several cases in which salicylic acid had been given without effect or in which it could not be tolerated, recovered under the use of benzoic acid. One point in favour of benzoic acid was the fact, that in none of the cases treated were there any symptoms of irritation of the stomach, intestines, or other organs. In the cases treated by it there were no relapses, nor cardiac or other complications. Further experience, however, is required in order to determine whether benzoic acid, in spite of the comparative slowness and uncertainty of its action—for it failed in several cases—is to be preferred to salicylic acid on the ground of the permanency of the cure and the absence of complications. The use of benzoic acid appears to be indicated in cases where salicylic acid or its soda-salt either cannot be borne or fails to produce any effect.—*Lond. Med. Record*, March 15, 1880.

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Syphilitic Muscular Contraction.

M. Cesbron, in his thesis (*Thèse de Paris*, and *Journal de Médecine et de Chirurgie Pratiques*, November, 1879), has brought together a certain number of facts relating to a comparatively little known affection, syphilitic muscular contraction. They concern those contractions which manifest themselves in the course of syphilis, without appreciable lesion of the contracted muscle and the constituent parts of the region. This affection is met with in the secondary period of syphilis, sometimes also in the tertiary period, or at the same time as the so-called transitory symptoms. It may show itself in different muscles, in the masseters, in the gastrocnemius; but its favourite habitat is the brachial biceps, for which reason it has been termed, by M. Mauriac, bicipital myopathy. In this case, as M. Cornil has stated, it shows itself by stiffness of the elbow-joint, and the impossibility of complete extension of this joint. If this extension be increased, the biceps, which extends itself, is contracted, and opposes itself to movement. Gradually the extension movement becomes more and more limited, and the forearm remains bent over the arm at a varying angle, from the obtuse to a very acute angle. The movements of the articulation are thenceforward very restricted, but the movements comprised in the limited angle of extension are readily performed. It is a question of a contraction of the biceps, which is not to be got over, and produces sharp pain when extension is forcibly made; but there is nothing wrong in the joint. Palpation shows that the tendon of the biceps is hard and stretched like a cord, and that the muscle itself assumes the rounded form which it puts on when it contracts. Patients suffer at the same time, to a variable extent, and the seat of the pain is found either at the level of the elbow-bend, or at the circumference of the olecranon; in the lower limb, pain occupies the popliteal space, and the upper extremity of the gastrocnemii. The general phenomena observable at the same time are ruled by the syphilis; but it is not uncommon to find pains appear simultaneously in some joints. Likewise, in a certain number of cases, cold has appeared to be the occasional cause in the production of this contraction. Syphilitic contraction presents somewhat considerable differences in its progress: it never constitutes a very serious affection, but may last a long time, sometimes even for years. Thus the treatment is very important, for its action is as quick in this as in other syphilitic manifestations. Mercury should be used when the contraction shows itself at an early stage, and the iodide of potassium when it puts in a later appearance.—*Lond. Med. Record*, March 15, 1880.

Syphilis of the Central Nervous System.

At a meeting of the Königsberg Association for Scientific Medicine (*Berliner Klin. Wochen.*, 1879, p. 407), Dr. NAUNYN discussed sixty cases in which the history of the patients had been accurately noted. Eight had been examined *post-mortem*. No exostoses (which during life are frequently set down as the cause of brain-symptoms in syphilis) were found. On the other hand, gummata in the brain-substance, subdural gummata softening as a sequela of endarteritis, with or without consecutive thrombosis, and simple softening, were ascertained to be present. Brain-symptoms frequently belong to the earlier manifestations of the disease. Naunyn has frequently seen it within the first year. Heubner's assertion, that intellectual and active men are particularly liable to this form of disease, does not appear to be borne out by Naunyn's experience. In general, it may be said that young persons are especially liable to syphilis of the brain. That there are any specific peculiarities about the disease, excepting the paralysis of the ocular muscles and pain in the head, Naunyn cannot admit. The only characteristic point is that the usual symptoms occur in the young instead of the old. An important diagnostic point is the absence of symptoms pointing to compression (*stauungspapilla*, etc.). The usual symptoms are those pointing to a centre of disease; hemiplegia was common in Naunyn's cases, together with paralysis of the ocular muscles in many instances, which, as is known, rarely occur in ordinary hemiplegia. Epilepsy is not uncommon. Charcot's assertion that hemi-epilepsy is particularly characteristic of syphilis, is not borne out by Naunyn's experience. He has never seen a case. Paraplegia occurred in eight cases out of the sixty; once the group of symptoms pointed to hemiplegia spinalis. The prognosis of brain-syphilis is, according to Naunyn, always doubtful. The number of cases which entirely recover is very small. In any case, however, the prognosis is more favourable than when the same symptoms are due to any other cause. Naunyn uses mercurial inunctions, and only employs iodide of potassium occasionally.—*London Medical Record*, March 15, 1880.

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Rapid and almost Universal Paralysis with Recovery.

At a recent meeting of the Clinical Society of London (*Lancet*, March 20, 1880), Dr. BUZZARD read notes of a case of Rapid and almost universal Paralysis, involving the four Extremities and both sides of the Face, Respiration and Deglutition; Recovery. The patient, a sparely-built man, forty-four years of age, when admitted under Dr. Buzzard's care at the National Hospital, presented double facial palsy. His face was devoid of expression; he could not whistle nor frown, and the saliva dribbled from his mouth. There was also complete palsy of the external rectus of each eye. The tongue was tremulous, but not wasted. He could not swallow solids, except with difficulty; but fluids did not regurgitate. The sterno-mastoids were flaccid. Respiratory movements were upper thoracic, and they were not aided by the sterno-mastoids. There was some loss of control over the sphincter ani. As to the limbs, he could just move his arm sufficiently to feed himself, but otherwise they were powerless, though not wasted. He was unable to stand, and there was great muscular flaccidity in his legs. The patellar tendon-reflex was absent in both legs.—*Cutaneous Sensibility.* Over both sides of face there was loss of tactile sensation, but heat and cold were differentiated. On the extremities there were defined areas of anæsthesia.—*Smell.* Assafœtida and sumbul could be recognized by right nostril, not by the left.—*Sight.* Muscæ; diplopia; fundus oculi normal.—*Hearing.* Normal.—*Taste.* Neither sugar nor salt could be perceived on either side of tongue.

He suffered from sharp pain in the right thigh. The urine contained no albumen. The history of the case was as follows: A month previously his face was noticed to be drawn to the right. Then he began to have sensations of "pins and needles" in the hands and feet; then his legs failed him. Next he lost power in swallowing, and, lastly, his arms got weak. There was no history of a blow or other injury, or exposure to cold, nor of any throat affection, nor of his having been in the vicinity of any one suffering from sore-throat. When twenty-four years of age he contracted syphilis, but had no marked manifestation of the disease. He was given ten grains of iodide of potassium every four hours. Improvement soon set in, and about a fortnight after admission he was ordered mercurial inunctions, the dose of the iodide being increased to fifteen grains. Ten days later the anæsthesia was much diminished, and a considerable amount of power had been regained; and in about another ten days he was able to walk. When discharged three months after admission he could walk fairly well; but the patellar tendon reflex was still absent. A note three weeks later stated that he could then walk three or four miles, and that there was decided patellar reflex in the right leg.

Dr. Buzzard remarked that this seemed to be one of the cases of "acute ascending paralysis," without muscular atrophy, first described by Landry, which in the majority of instances terminated in asphyxia from paralysis of the respiratory muscles. Erb, who remarks that the disease may progress downwards from the bulb, says that as a rule there is a very slight disturbance of sensibility, so marked a feature in this case. The lessened muscular excitability was also peculiar. Dr. Buzzard compared the case to one he had brought before the Society in 1874, which he believed to have been syphilitic in origin. The spinal origin of the disease was evident from the absence of patellar reflex, the widespread paralysis, and the diminished irritability to the induced current. If it were a myelitis it must have involved the posterior as well as the anterior cornua, or it might be produced by some thickening or exudation in the pia mater. In the case he had previously recorded he thought the symptoms might have been produced by a pachymeningitis, but he rather doubted this from subsequent experience. He had had two other similar cases. In all but one there was a strong history of syphilis. The rapidity with which they all recurred under anti-syphilitic remedies was in favour of their being due to that disease.

Dr. S. Mackenzie said the case was a most peculiar one. There must have been some lesion in the cord itself. About ten years ago he had seen two cases of sudden and severe universal paralysis, both fatal. One was a case of a young girl, who after severe headache was attacked with vertigo and brought to the London Hospital partially insensible and completely paralyzed. Drs. Ramskill, Sutton, and Hughlings Jackson examined the case. Sensibility was retained, there was no change in the optic nerves, the extremities were livid. She was bled to thirty ounces, with temporary relief. After death no gross change was found in the nervous centres. Another case, about the same time, was that of a man who was suddenly seized with paralysis in all his limbs, followed by tonic spasms, almost tetanic in character. Here again no change was found after death. He mentioned these cases to show to what an obscure class they belonged, and how difficult it was to decide the seat and nature of the lesion. Indeed, it was very difficult with our present knowledge to determine what lesion would account for all these symptoms.

Dr. Mahomed had seen a somewhat similar case with Dr. Broadbent some years ago. It was not so severe a case as Dr. Buzzard's. A young man was taken suddenly ill, with intense vertigo, great weakness, and almost constant hiccough. For two or three weeks previously he had suffered from headache.

He became more or less paralyzed in the lower limbs; his face was expressionless and the pulse irregular. The case is published in Dr. Broadbent's lecture on "Syphilitic Nervous Diseases." The patient recovered rapidly under anti-syphilitic treatment; but for weeks afterwards he had disordered sensation—*e. g.*, when in a cold bath one-half of his body felt hot and the other cold, and *vice versâ*. One marked feature was the intensely offensive character of the urine as soon as passed. There was no retention, and it appeared as if the urine underwent some chemical decomposition shortly after its excretion. The fundus oculi in this case was normal.

Dr. BUZZARD, in reply, said that the anæsthesia of the skin of the face was most complete, but he had no note of the condition of the mucous membranes. He asked Dr. Mackenzie if there was any reason to suspect syphilis in his cases, which apparently belonged to the same category.

Dr. MACKENZIE said there was no evidence of syphilis in either of them.

Dr. GREENHOW remarked upon the analogies presented by the case with those of severe diphtherial paralysis, of which he related an instance where there was complete palsy of limbs, face, and tongue. Although there seemed no doubt that Dr. Buzzard's cases were due to the syphilitic poison, yet it was interesting to note their similarity to those due to diphtheria.

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Diabetic Coma.

PROFESSOR QUINCKE, of Kiel, contributes a paper on this subject to the *Berliner Klin. Wochenschrift*, No. 1, 1880, with special reference to a case of well-marked hereditary diabetes in a girl of sixteen, which terminated after several months' observation in the following way: Two days before death the patient was suddenly seized in the early morning, after a very copious movement of the bowels, with great weakness and desire to sleep, which lasted the whole day. In the evening she became very excited and frightened, was delirious, and screamed loudly. She then gradually passed into a state of stupor, at first answering when spoken sharply to, but afterwards becoming quite unconscious and incapable of swallowing, with very laboured respirations. In this state she died.

Professor Quincke considers that the term "diabetic coma," which was first introduced by Kussmaul (*Deutsches Archiv für Klin. Med.*, 1874), should be applied to the train of nervous symptoms just described. Kussmaul supposed that such symptoms depended on the presence of some poisonous material, probably acetone, in the blood. In the present case, not only towards the end of the patient's life, but also several months earlier when she suffered from sleepiness and dyspnœa without objective lung symptoms, the urine on treatment with perchloride of iron became of the colour of red Burgundy wine, a reaction which has been supposed by Gerhardt and others to indicate the presence of diacetic ether ($C_6H_{10}O_3$) in diabetic urine. Professor Quincke, however, observed that the urine of his patient had not the characteristic smell of this ether, and further that while normal urine to which even $\frac{1}{1000}$ part of it had been added smelt distinctly, it was necessary to add more than one or two parts per thousand of the ether to the diabetic urine before it smelt at all. He concludes, therefore, that the patient's urine contained some substance which combined with the diacetic ether until saturated by the latter, but experiments showed that this substance was not an alkali, grape-sugar, nor one of the normal constituents of the urine. Professor Quincke has also found that though the physiological effects of diacetic ether on animals somewhat resemble, they are not precisely the same as the symptoms of so-called diabetic coma. Dogs, for example, become restless and stupid after large doses of the ether, and they suffer from well-marked dyspnœa with accelerated breathing, which persists until death. On the other hand, the ether

does not appear in the urine as such, nor does the breath, even after its injection into the blood, smell of it. He therefore regards the substances which cause the Burgundy-red colour with perchloride of iron in diabetic urine as one allied to diacetic ether, but not identical with it. He also remarks that since the symptoms of "diabetic coma" in the few hitherto reported cases vary considerably in character and in their degree of intensity, just as do those of uræmia, it is probable that, as in the analogous case of the latter condition, "it is not *one*, but several, substances which are formed in varying proportion by the abnormal tissue-change which is taking place, and by their accumulation lead to toxic effects, which, though capable of combination into one congruous picture, vary individually much more than, for example, the symptoms of poisoning by any particular alkaloid." The whole tenor of Professor Quincke's paper is to show how little we yet understand the true *rationale* of diabetic coma, and there is evidently a wide field open for investigation in this as in other branches of pathological chemistry.—*Med. Times and Gazette*, Feb. 28, 1880.

Osseous and Articular Lesions in Locomotor Ataxy.

At a recent meeting of the Pathological Society of London (*British Med. Journal*, Feb. 14, 1880), Dr. BUZZARD exhibited three patients suffering from osseous and articular lesions in the course of locomotor ataxia. The history of one of these patients, a man, had been published. He was a typical example of tabes dorsalis, in whom the right hip-joint was completely disorganized (the head and neck of the femur having entirely disappeared) within a space probably of three months. He presented besides a curious bony process, nine inches long, developed in the superior tendon of the rectus femoris muscle of the same side. Of the two other patients, one was a widow, aged 50, an in-patient of the National Hospital for the Paralyzed and Epileptic. The patient, who had suffered for about eleven years from typical lightning pains in her legs and arms, had been affected for an equal time with attacks of the *crises gastriques* of Charcot, attacks in which there was pain in the stomach and chest, with continual retching and vomiting, occurring at irregular intervals. Other symptoms of tabes which she presented were ataxic gait, very small pupils not reacting to light, analgesia of the extremities, defective muscular sense, and absence of patellar tendon-reflex. In October, 1878, whilst walking quietly along the ward, her right femur was fractured through its neck. In July, 1879, whilst retching in bed, the left hip-joint suddenly "bulged out." Since then, she had been unable to use either leg. Mr. Adams, who examined the patient at Dr. Buzzard's request, reported the movements of both hip-joints free, but limited in some directions, with crepitation more marked in the right than in the left. On the right side, the top of the great trochanter was nearly level with the anterior superior spinous process; and on the left, the trochanter was extremely prominent and the bone enlarged. The conditions observed might be due, he thought, either to spontaneous fracture of the neck of the bone on each side, or to complete disorganization of the joint with atrophic changes and absorption of the head and neck of the bone on the right side, and similar changes on the left, associated with enlargement of the great trochanter from throwing out of new bone. The other patient was a married woman, aged 36, an out-patient of the National Hospital for the Paralyzed and Epileptic. For the opportunity of observing this patient, Dr. Buzzard was indebted to Mr. Henry Smith, under whose care she had previously been. Like the other woman, she had been subject (for upwards of ten years) to attacks, not only of typical lightning pains in her extremities, recurring at intervals of a month or two, and lasting three or four days, but also of very characteristic *crises gastriques*. These occurred at irregular intervals,

between which she felt quite well. Her other symptoms had been staggering gait, diplopia, inability to stand with the eyes shut, partial colour-blindness, pupils insensitive to light, analgesia of the extremities. Three years ago, the right leg became red and swollen, though not painful; these symptoms subsided under rest, but in June, 1878, they recurred. In September, the swelling had gone down, but the knee-joint was useless. At the same time, the left leg began to swell, and was larger than natural when she was admitted into King's College Hospital at the end of the year. During her residence of one month in the hospital, the left leg became dislocated outwards and backwards on the femur. The muscles of the lower extremities were wasted. The patient was discharged at the end of January, 1879, with leather supports to each knee, which enabled her to move about with help. Mr. Broster, resident medical officer to the hospital in Queen Square, reported that it felt as though all ligamentous connections had disappeared from the right knee-joint. The ends of the bones could not be brought into apposition, and they were so loosely connected that the patient, before she put on the leather casing, had to bandage them together. It seemed as though the condyles had been bevelled off, and the end of the femur turned into a rounded and smooth stump, whilst the upper end of the tibia was bevelled off inwards. The patella was two inches above, and to the outside of, the end of the femur. Along the outer side of the inner hamstring was a firm, smooth, rounded mass, one inch by half an inch. On the left side, the tibia and fibula were dislocated backwards and slightly outwards. The condyles were rounded off, the inner one being enlarged. The patella lay over the end of the femur in front. The right shoulder had lately shown swelling, and there was crepitus on movement.

Dr. Buzzard remarked that, although nearly twelve years had elapsed since Charcot first described the arthropathy which was apt to occur in tabes, the subject had hitherto engaged but little attention in England. The first case described in England was by Dr. Clifford Allbutt in the *St. George's Hospital Reports* for 1869. The second was published by Dr. Buzzard in the *Lancet*, August 22, 1874. It was a typical example of tabes, with enormous swelling and disorganization of the knee-joint, which began when the patient had been affected at least five years with the disease, and proceeded with great rapidity. Besides the four examples which had occurred in Dr. Buzzard's practice, he had seen a few others of similar nature, but less broadly characteristic. In 1873, Dr. Weir Mitchell[1] alluded incidentally to the frequency of fractures in tabetic patients; and about the same time Charcot brought to the Société Anatomique of Paris the case of a woman (affected with tabes dorsalis) in whom, concurrently with great disorganization of certain joints, multiple spontaneous fractures of the neck of the left femur and of both bones of both forearms had occurred. At the present time, Charcot was disposed to consider the joint-changes and the spontaneous fractures as secondary manifestations of the fault of nutrition of the osseous tissue, dependent on an influence of the nervous system. According to him, the extremely rapid wearing away of the articular extremities was the principal character which distinguished tabetic arthropathy from arthritis deformans. In cases of spontaneous fracture due to tabes, it was common to find a more than usually exuberant callus thrown out. In the three patients present, there were, or had been, all the conditions which had been described as characterizing the osseous and articular lesions of locomotor ataxia. Extensive swelling, more often than not painless, and never confined to the joint itself, but extending also down the long axis of the limb, disappearance or disablement of the articular ligaments,

[1] American Journal of the Medical Sciences, July, 1873, p. 113.

rapid erosion and absorption of the ends of the bones, were the features which marked two of the cases. In the other, spontaneous fracture certainly of one femur and, as he believed, also of the other, was coupled with the formation of what was probably a voluminous callus. The *crises gastriques*, which were comparatively rare in tabes, were frequent in cases of arthropathy. Altogether, in eight out of twenty-one cases of arthropathy, *crises gastriques* were also present. As the gastric symptoms were probably due to sclerosal invasion of the roots of the vagus nerve, Dr. Buzzard suggested the probability that change in some structure contiguous to them in the medulla oblongata might be the lesion giving rise to the altered nutrition in the osseous system, and he thought that it was in this quarter that pathological anatomy might usefully direct its energies.

Dr. GOWERS showed an elbow-joint from a patient with locomotor ataxy (aged 45), who, four years after the disease commenced, and when the symptoms were well marked in both arms and legs, fell, striking the elbow. He used the arm next day without inconvenience, but the joint rapidly swelled, and a medical man whom he consulted thought some bone had been broken. Two months later, when seen, the joint was enormously swollen, fourteen inches in circumference, abnormally mobile, and loose bone could be felt. There was not, nor had there been, any pain. The swelling slowly lessened. Six months later, he died from a painless but extreme pleural effusion. The cord presented the usual lesion. In the elbow-joint, the external condyle of the humerus had been split off, and the coronoid process of the ulna was also fractured. The ends of the bones had lost most of the cartilage and were eroded. The synovial membrane was covered, between the bones, by villous projections, some fine, others large. There were also two pieces of bone which could not be accounted for by fracture; one, about half an inch square, was above the coronoid process, and projected into the cavity of the joint; the other was a plate of bone in the outer wall of the synovial sac, about an inch square, but apparently in two pieces.

Mr. HUTCHINSON exhibited a series of casts of bones presenting changes in locomotor ataxy, which had been sent over by Professor Charcot. There were the bones forming an elbow-joint which showed all the changes described by Dr. Gowers. Another cast showed a wearing away of the upper part of a femur, associated with an ununited fracture of the neck of the bone. A third showed extreme shortening of a femur after fracture. He showed also some casts taken from a living patient in the Salpêtrière. The left humerus was dislocated beneath the clavicle, the head of the bone being apparently little altered. There was no pain in the joint, and the arm could be freely moved in all directions without pain. The opposite humerus was dislocated on to the dorsum of the scapula, the head of the bone being partly absorbed. There was dislocation of the right knee-joint, the tibia and fibula being twisted out and displaced upwards behind the femur, the lower end of the latter bone being also partially absorbed. He had seen a case of locomotor ataxy which had begun with severe *crises gastriques*, that rendered the patient quite unable to work. This symptom passed away, and was followed by pain and weakness in the right hip-joint, which symptoms were attributed to rheumatoid arthritis. Three years later, amaurosis set in, beginning with defective sense of colour, and rapidly going on to blindness, with white atrophy of the disk. Subsequently, many other symptoms of locomotor ataxy became developed, and the condition of the right hip was such that either dislocation on to the dorsum ilii and absorption of the head must have taken place, or there existed an ununited fracture of the neck of the femur. The patient had latterly very much improved, and, except that the right leg was considerably shortened, he walked about very well. The President narrated another case which had been under observation for fifteen years. The symptoms began

with amaurosis, which, however, never became complete. Subsequently, various symptoms of locomotor ataxy developed. The patient walked with a limp. After death, an ununited fracture of the neck of the femur was found. There was no history to show when the fracture had taken place.

Mr. MACNAMARA thought the disease of the bones was probably the result of the synovial distension rather than of any central nervous condition. He considered the condition to be not unlike that seen in chronic rheumatoid arthritis. He narrated a case of joint-disease occurring in locomotor ataxy that had come under his own notice.

Dr. ALLEN STURGE narrated a case of locomotor ataxy which had been recently under his care, in which the earliest symptom was the occurrence of *crises gastriques* of a very intense character, lasting over a period of three years. These were followed by great enlargement in the right knee-joint, and somewhat later by very well-marked symptoms of locomotor ataxy. The knee-joint recovered without much alteration in the bones. He had seen two cases of spontaneous fracture in locomotor ataxy; in one case, a man with well-marked symptoms of the disease had fractured the right femur at the middle of the shaft whilst putting on his boot, and he had subsequently fractured the left leg by an equally slight movement. Both fractures had reunited. The other case was a woman in the Salpétrière, who had sustained a spontaneous fracture in the left leg whilst under observation, and a few days later had fractured the right humerus, whilst trying to move her position in bed.

Dr. BROADBENT had treated one of the patients exhibited by Dr. Buzzard through some of the earlier stages of her illness, and he gave further details of the case, a remarkable point being that, during her attacks of gastric pain, she frequently ran about the ward without giving any sign of ataxy of the legs. He was not inclined to accept Dr. Buzzard's view of the connection of the *crises gastriques* with joint-disease. He had seen six cases of *crises gastriques* associated with locomotor ataxy, and in only one case was there joint-disease.

Dr. BUZZARD, in reply, said he was prepared to find that surgeons would not consider there was anything remarkable about these joint-affections. In rheumatoid arthritis, in by far the larger number of cases, the smaller joints were first affected, but they were never affected in locomotor ataxy. The amount of liquid effused in the latter disease was often much more than was seen in rheumatoid arthritis. In many of the cases of ataxy, moreover, there was a remarkable retrogression, which did not occur in anything like the same degree in the rheumatic affection. The rapidity with which the changes were produced in ataxy was also peculiar, a few days sometimes sufficing for the complete destruction of a joint. He agreed with Mr. Butlin in thinking that probably all the structures of the joints might be primarily affected.

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On the Treatment of Chronic Dysentery.

Dr. C. H. RALFE, Senior Physician to the Seaman's Hospital, concludes a statistical paper on this subject (*Lancet*, Feb. 28, 1880) with the following summary:—

The castor-oil treatment may be advantageously employed in all stages of the disease—either at an early period, when the disease is subacute and the ulceration still extending, or when the process of repair is going on, and we are dealing merely with an ulcerated condition of the bowel; or when the ulcers have healed, and there remains a thickened and contracted condition of bowel, caused by cicatrization, with a mucous surface extremely liable to catarrh. It is apparently beneficial by causing a soft non-irritating flux from the small intestines,

which sweeps before it scybala, decomposing shreds of mucous membrane, or food, and offensive discharges accumulated in the lower bowel. It is not improbable, in addition to this mechanical action, that the flux from the small intestine may have some remedial action on the ulcerating surface analogous to that said to be produced on the inflamed mucous membrane of the bladder by the injection of normal urine. In the later stages of the disease, when cicatrization is completed, or nearly so, castor oil relieves the constipation, the consequence of the thickened coat and diminished calibre of the bowel, and it also appears to diminish the tendency to catarrhal relapses. With respect to the dose, in twenty-one cases two drachms of the oil were administered every alternate night. Of these, six were discharged cured. In the remaining seventeen cases the oil was given twice a week in half-ounce doses, and the number of cases discharged cured amounted to eleven. Each dose of castor oil was guarded by the addition of eight drops of laudanum. The administration of castor oil does not usually lead to an immediate diminution of the number of stools, its first effect being to improve their character. By the end of the first or second week the stools become more feculent and less offensive, and the tormina and tenesmus are less urgent. The stools then gradually fall in number, preserving often a regular gradation, interrupted, however, by repeated relapses, each relapse, if treated promptly with ipecacuanha, being more manageable and of shorter duration.

When castor oil alone was relied on, the results were not so satisfactory as when either a mixture of bismuth or hæmatoxylon was given at the same time, or at some period during treatment. Indeed, the most satisfactory results were obtained with half an ounce of castor oil administered twice a week, and a mixture of hæmatoxylon given three times a day. I cannot, however, at present come to any decision with regard to the respective merits of bismuth and hæmatoxylon. In the majority of the cases treated with bismuth the castor oil was administered in two-drachm doses, repeated every other night, and the cases treated with hæmatoxylon with half-ounce doses of oil only twice a week. The more favourable result obtained with the latter treatment may be due to the larger but less frequent dose of oil. Both have a different action, bismuth diminishing the catarrh of the mucous membranes in the neighborhood of the ulceration; hæmatoxylon[1] by restraining undue peristaltic action throughout the intestinal canal, allowing digestion to be more completely performed, and in this way improving the general nutrition, and diminishing the irritation of the ulcerated surfaces by lessening the passage over them of undigested matters. In four cases turpentine was administered in conjunction with the oil. Turpentine seems to be indicated where we have a large ulcerated surface, and the discharge is offensive. A considerable number of cases treated solely with turpentine were collected for me by my friend, Dr. Andrew Duncan, when house-physician at Greenwich, the notes of which I have unfortunately mislaid, or I would have appended them to this paper. The results obtained were encouraging, but, as the turpentine was sometimes uncertain in its action, I have not continued its use, except occasionally as a supplement to castor oil.

With regard to the topical application of substances to the ulcerated surface by means of injections, in only one of the cases quoted was this tried, the administration of the oil being stopped during the case. The injection, which consisted of bismuth, was given twice with the effect of at once increasing the number of stools, and adding greatly to the patient's distress. The enemata were at

[1] Hæmatoxylon, according to Pereira, though classed as an astringent, does not constipate or disorder the digestive functions.

once discontinued, and the castor-oil treatment resumed, and the patient made a good recovery. In other cases where I have tried bismuth injections, and injections of other substances, the results have not been encouraging. In some cases where ulceration was low down in the bowel the injections sometimes seemed to do good.

Ipecacuanha powder was given in large doses in seven cases, six for relapses during castor-oil treatment, and in one case on admission. The dose ranged from twelve to twenty grains of the powder. In two cases in which the larger dose was given vomiting was produced; but with fifteen grains nothing beyond a feeling of nausea was complained of. Ipecacuanha is indicated whenever in the course of treatment the stools that had become feculent begin to lose that character, accompanied or preceded by abdominal pain and tenderness, with an increase of blood and slime in the stools and a return of tenesmus. A very sudden diminution in the number of stools passed daily is often a premonitory indication that a relapse is about to occur. As each relapse adds to the already existing debility and protracts the disease, it is of the utmost importance either to prevent their occurrence or cut them short if they have occurred. Therefore, at the first indication, a full dose of ipecacuanha powder should at once be given. If administered sufficiently early the urgent symptoms will be found to pass away, and the character of the stools improve, generally at the end of twenty-four hours; but if delayed till the relapse is well established it will be days before the patient will recover lost ground. Too much importance, therefore, cannot be laid on the *necessity of watching for the earliest indication of a relapse*, for on its early recognition and prompt arrest depends the ultimate success of all treatment of chronic dysentery.

All cases complicated with constitutional conditions, such as syphilis, ague, anæmia, scurvy, and the like, call for appropriate treatment in addition to that required for the dysentery. With reference to the use of iron, the solution of the pernitrate agrees very well with most patients. Some, however, are very intolerant of iron in any form administered by the mouth. In these cases it may be advisable to try the subcutaneous injection of the dialyzed solution.

Rest and strict attention to diet are essential to the cure of chronic dysentery. So long as there is tenesmus and much straining, and the stools contain blood and slime, the patient should be confined to bed, or at least remain in the horizontal position. When the stools become feculent he may be permitted to sit up for a few hours daily, but till the stools have become consistent he should not be permitted to go out of doors; even then only in dry, warm weather. Exposure to cold and damp almost invariably causes a relapse. Nourishment should be given only in small quantities at a time. When the symptoms are subacute, beef-tea must be chiefly relied on, and if the exhaustion is great fluid extract of meat, or juice of raw beef, must be freely administered. As the more urgent symptoms subside, boiled fish may be given, and then minced meat (made from fresh, not cooked meat). The effect, however, of the changes to a more solid diet should be carefully watched, for if given too soon, or in too large quantities, it will provoke a relapse. The best way is to begin with a very small ration, and increase it daily. Farinaceous food should be given in very small quantities, if at all. The digestive powers being usually enfeebled in chronic dysentery, some portion of the starchy matter may escape conversion into sugar, and, by decomposition in the large intestine, the unconverted starchy material will give rise to flatulence, and to the formation of lactic acid. The same caution is necessary with regard to milk, which if not speedily absorbed, rapidly undergoes lactic acid fermentation. Coffee and alcohol in any form are injurious, and should be

abstained from. Fresh fruits in small quantities and lime-juice are beneficial, especially if there is a scorbutic taint, which is very common.

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Double Abscess of the Liver Discharging through the Right Kidney and the Bladder.

LACAZE reports (*La France Médicale*, December, 1879) a case of abscess of the liver opening through the kidney, which is certainly rare and deserving of record. The patient, a young man, aged 24, was a native of the Island of Réunion, but had lived in France since his fifth year. He first came under the notice of the author in August, 1878, when he presented himself for examination in order to find out whether he had been properly cured of a pleurisy of the right side, for which he had been treated. At that time he still had a little pain in the side, but no cough or difficulty in breathing, though he was very thin and pale. An examination of the lungs failed to reveal anything wrong, and Dr. Lacaze accordingly gave it as his opinion that the pleurisy had completely resolved. He did not see the patient again till the following November, when he was called to attend him, and found him presenting the following symptoms: he was very much emaciated, the skin was hot and of a pale yellow colour, he had no appetite, and had occasional diarrhœa; there was well-marked and constant pain in the right side; the pulse was 120–125. The liver extended below the border of the false ribs and was tender to the touch. The pain was relieved by the application of a blister to the right hypochondrium, but two days later a slight prominence was noticeable in this region and careful palpation revealed deep-seated fluctuation. On the fourth day, on visiting his patient, Dr. Lacaze found him much improved, and was informed by him that he had passed a large quantity of urine during the previous night, and on examining a specimen of it he found it to contain a considerable amount of pus. The prominence mentioned above had disappeared. The patient continued to improve after this for a short time, but towards the end of January, 1879, all the symptoms returned with increased violence, and on examining him it was found that the prominence had reappeared, fluctuation could again be noticed, and the urine, though generally clear, contained pus from time to time. Two days later the tumour had increased very much in size and an exploratory puncture proved the presence of pus. After repeated applications of Vienna paste, the abscess, being then close to the surface, was opened, and the escape of 900 grammes of thick chocolate-coloured pus left no doubt of its being connected with the liver. A drainage-tube was inserted to a depth of 10 centimetres, the cavity washed out twice daily with a solution of carbolic acid, and a preparation of iodine and Vichy was given internally. The suppuration diminished gradually, though the pus still maintained the same character, and finally a fistulous opening was established and kept up by pieces of lint. The pus in the urine was of a pale yellowish color. All the unfavourable symptoms disappeared. At the solicitation of his family, the patient returned to Réunion; on the voyage the suppuration increased, and after reaching home, he died of exhaustion at the end of a month. No necropsy was made. In his remarks on the case, which he presented before the Society of Practical Medicine at Paris, the author calls attention to the rarity of this mode of discharge of an abscess of the liver, though similar cases had been reported, among others by Rayer and Neumann. He has seen two cases of abscess of the liver which had opened into the bronchial tube, and a cure followed; but where the discharge had taken place into the intestine, or where they had presented externally, and been opened either by the knife or caustic, a fatal result had always supervened. Taking these facts into consideration, though perhaps something

might be hoped for from Dieulafoy's aspirator, he was inclined to agree with the experience of those who saw such cases frequently in tropical climates, that it was best to refrain from surgical interference, and allow them to follow their natural course.—*London Med. Record*, March 15, 1880.

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Acute Nephritis in Typhoid Fever.

Dr. GREENHOW, at a late meeting of the Clinical Society of London (*Lancet*, March 20, 1880), communicated notes of a case of Typhoid Fever with Acute Nephritis and Profuse Hæmaturia without Dropsy. A porter, aged twenty-one, was admitted into the Middlesex Hospital under Dr. Greenhow's care, on November 25, 1879, the fifth day of a fever, which set in with considerable severity, the second day of the attack being marked by vomiting, cough, and slight sore-throat; and in the night he began to have painful micturition, and noticed that his urine was almost black in colour. On admission, pulse 108; temperature 103.2°; urine sp. gr. 1012, of a deep red colour, from admixture with blood, containing albumen—one-half, numerous blood-globules, blood and epithelial casts. He was very prostrate, and suffered from muscular pains. There was impaired resonance with bronchial breathing and scanty crepitation at the apex of the right lung, but no râles elsewhere. The cardiac second sound was reduplicate. Abdomen was tympanitic, and there were tenderness and gurgling in the right iliac fossa. The liver and spleen were not enlarged. There was no diarrhœa nor rose-spots. Cold sponging was ordered and a fluid diet. At 9 P. M. pulse 126; temperature 104.6°. The illness ran a rapid course, prostration increased, the pulse-rate ranged between 100 and 130; the temperature 97.6° to 104.8°. Restlessness and delirium, passing towards the close into somnolence with occasional subsultus in arms and legs, were observed. The tongue became dry and fissured. The urine continued to be blood stained, but the amount of blood and albumen diminished. The abdominal distension persisted, and characteristic diarrhœa appeared on the 27th, continuing till death, which took place on December 8th, the thirteenth day of his illness. The autopsy revealed mitral thickening and enlargement of the heart, and marked pulmonary hypostasis. Two or three sloughing ulcers occurred at the lower end of ileum, and one in the healing stage, Peyer's glands and solitary follicles being elsewhere swollen. Liver and spleen greatly swollen and softened. Kidneys, weighing twelve and fourteen ounces respectively, were intensely gorged; their secreting tubules were filled with swollen granular epithelium, and between the tubules there was small-celled infiltration.

Dr. Greenhow remarked that he had not met with a similar instance. Albuminuria, when it occurs, is usually a late event in typhoid fever; according to Liebermeister, not until the fever has reached its height; and Murchison says it rarely appears sooner than the third week, and is due either to congestion or to parenchymatous degeneration, not as due to acute nephritis. Dr. Murchison also says that when copious hæmaturia occurs it is generally associated with other hemorrhages. The only parallel instance to the present case Dr. Greenhow had found on record was a reference by Liebermeister to two cases of uræmia from acute parenchymatous nephritis in the Basle hospital, in 1872, soon after admission, and during the height of an attack of typhoid fever. The most careful inquiry failed to elicit any history of previous disease in the present case; so that it seemed as if the trivial cardiac hypertrophy and mitral thickening were due to the very intense nephritis. The points then of chief interest were the concurrence of typhoid fever with such intense nephritis, the entire absence of dropsy, and the severe and rapid course of the disease.

Dr. CAYLEY said that of late years in the London Fever Hospital there had only been one case of typhoid fever complicated with acute nephritis, which came on during convalescence from the fever. Two years ago a patient in the same hospital had profuse hæmaturia, but Dr. Cayley had never seen a case with so rapid a course as that described by Dr. Greenhow. The presence of a healing ulcer would suggest that the period of the fever was later than was apparent.

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Suppurative Pyelitis treated by Incision.

Dr. HABERSHON at a late meeting of the Clinical Society of London read the notes of a "case of pyelitis; discharge of pus; incision in the loin; recovery." The patient, aged twenty-eight, a carman, of phthisical stock, was admitted into Guy's Hospital on the 29th January, 1879. Four months before, he had noticed blood in the urine, and had experienced pain at the end of the penis during micturition. For some time previously he had had pain in the left arm, side, and thigh. A month later a swelling appeared in the left loin, and the severity of the pain compelled him to keep in bed. One night the swelling disappeared, and he passed about half a pint of pus with his urine, and continued passing a little pus for three or four weeks. On admission, he appeared ill and distressed, his sleep was disturbed, and movement gave pain. There was tenderness in the left loin; and dulness from the eighth rib to the crest of the ilium on this side, as well as fulness, but no defined swelling. Harsh breathing at apex of right lung, but no dulness except at the left base, where breath-sounds were absent. The urine was clear, specific gravity 1022; free from pus, blood, albumen, sugar, or phosphates; it contained a few squamous epithelial casts. Evening temperature 102°. Morphia was given to relieve pain.

Diagnosis—disease of pelvis of left kidney, probably strumous; but it was doubtful whether there had been tubercular disease at the commencement, and the symptoms did not indicate calculus.

On February 8th six ounces of clear, light-green fluid, followed by two ounces of pus, were withdrawn by means of a fine trocar and canula introduced between the ribs and iliac crest. The fluid had a fetid odour; it contained no urea or uric acid, nor hydatid, but pus-cells and fibrin. On the 14th the temperature was high; the tumour distinctly felt.

Mr. Davies Colley made an incision under carbolic spray in the left loin, about three inches in length, just beyond the edge of the quadratus muscle. A firm, thick-walled abscess was found and laid open, evacuating nearly two pints of pus. The abscess extended beneath the ribs to about the eighth rib, and downwards about two inches below the crest of the ilium, forwards to the edge of the rectus. Its walls were lined with calcareous material. A drainage tube was introduced, and the wound dressed antiseptically. Quinine was given. On March 21st temperature 102°, the wound had healed, and Mr. Colley reopened it, evacuating half an ounce of pus. From that time he continued to improve, leaving hospital on May 15th. The sinus was still left open, and he was directed to come to the hospital every third day, to have the side dressed.

Dr. Habershon remarked that the family history and appearance of the patient suggested the probability of tubercular disease. It was not easy to give a decided opinion as to the cause of the hemorrhage. The pain at the end of the penis suggested vesical irritation, as from calculus. Perhaps a calculus had blocked the ureter, and led to distension and suppuration in the pelvis of the kidney; but the alternative view of tubercular disease or caseous inflammation, followed by chronic suppurative pyelitis, was more feasible, and was borne out by the semi-calcareous state of the diseased pelvis. The relief afforded by the operation was

so marked that Dr. Habershon felt sure that had it been postponed the man would soon have become exhausted, and he suggested that it might be more frequently resorted to in such cases with benefit and the saving of life. It would be well if the whole gland could be safely removed. He mentioned a case of a man who, from the age of sixteen or seventeen, suffered from periodic discharges of pus from the bladder, the discharge of pus being preceded by the formation of a large projecting sac, extending from the ribs to the iliac fossa on the right side. He lived to the age of sixty-four, dying from cancer of the remains of the kidney, and it was found after death that a calculus blocked the ureter, and that pus collected until the distension of the ureter made the passage free.

In a note appended to the case that had been read, Mr. Colley states that the chambered character of the sac indicated its being an enlargement of the pelvis. The discharge continued until the end of October, and when last seen in November the wound had been healed two weeks, and no signs of any abdominal tumour remained.

Mr. GOLDING BIRD endorsed Dr. Habershon's statement as to necessity for early operative interference, and further suggested that surgical aid might be had recourse to for the purpose of diagnosis. In a case under his care, with painful symptoms of prostatic and probably also renal disease, where there was a swelling in the neighbourhood of the kidney, he cut down upon that organ, and explored it thoroughly. The operation gave no relief, but it was performed only for diagnosis. When there were symptoms of calculus in the kidney, surgical aid might be called in to establish the diagnosis. It only required a simple incision, and the risk to the patient was *nil*.

Mr. WALSHAM said there was another method by which this end could be attained—viz., exploration by the whole hand in the rectum. Simon had thus detected stone in the renal pelvis. He (Mr. Walsham) had employed this method in five cases, and had easily reached the kidney. He had never found any ill result occur.

Dr. HABERSHON said there was sometimes great difficulty in distinguishing between an abscess of perinephritic character and one of pyelitic origin. The value of operation was well illustrated in the case he had brought forward.—*Lancet*, Jan. 31, 1880.

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Hyaline Degeneration.

A kind of degeneration of the vessels and substance of the lymphatic glands, which, although it has probably been observed in this country, does not appear to have been regularly investigated or named, has been recently described by WIEGER, a pupil of Recklinghausen's, in *Virchow's Archiv* (vol. lxxviii., part 1, page 25), and deserves the careful attention of pathologists. The disease, for which the name of "hyaline degeneration" has been proposed, naturally presents different characters, according as it effects the vessels or the proper substance of the lymphatic glands. When the former are the seat of the change, the smallest bloodvessels of the gland are found to be converted into hyaline tubes, their wall being greatly thickened and their lumen narrowed. The hyaline material possibly consists of a cellular infiltration of the vessel-coats, especially the adventitia. The final stage of the process consists of a diffuse calcification. Chemically, the hyaline substance is to be distinguished from the connective tissues, and to be classed with the colloid materials. With respect to the cause of this degeneration, the most important factors appear to be circulatory disturbances in conditions of dyscrasia or senility.

The naked-eye appearances of glands, when their vessels are thus affected, are not characteristic until a section is made, when a perfectly typical picture is pre-

sented. Instead of the familiar characters of a lymphatic gland, there is seen, upon a somewhat congested ground, an extremely fine and delicate network of whitish, more or less opaque, somewhat prominent trabeculæ, which divides the section into a number of small fields of tolerably normal appearance. To the fingers the trabeculæ feel firm and even sandy, and nodules occur at their points of communication. Such networks are by far most abundant in the peripheral portion of the gland. The degeneration affects the different groups of glands very unequally; the lumbar glands apparently seldom escaping in any case, and the inguinal and axillary glands being next most commonly invaded, whilst the mesenteric glands have never been found involved. Altogether, Wieger found the disease in ten cases in the course of 600 post-mortem examinations made during a period of nine months.

With respect to the minute anatomy of the process, it is found to be confined to the follicular substance of the lymphatic glands, and never to invade the lymph-paths. The disease is readily referred to the capillary vessels, which are enlarged by thickening of their walls, whilst their canal is diminished or even obliterated; and this by the presence of a highly refractive, translucent substance which is not unlike the matrix of hyaline cartilage. Careful examination sometimes revealed traces of the tunica intima within the zone of new material, and even appearances of the remains of a tunica media, so that the degeneration would appear to have its seat, in these instances, in the adventitia of the capillary arteries. Treatment with staining fluids and other reagents failed to reveal the presence of nuclei or of anything resembling the contour of a cell in the degenerated coat. The gland-tissue lying between diseased vessels may be atrophied by pressure, but otherwise remains healthy. The process appears to proceed from the centre of the lymphatic follicles outwards. The last stage of hyaline degeneration seems to be calcification, and the removal of the calcareous particles by means of an acid leaves the substance translucent as before. Of special interest is the reaction of the hyaline substance to the ordinary tests used in morbid histology. Iodine solution colours it of a light straw-tint only, and the amyloid reaction is entirely wanting. Water does not affect it; and the mineral and acetic acids hardly cause it to swell, increase its translucency, but bring out no nuclei in it. Alkalies produce marked translucency, so that the substance becomes vitreous and absolutely amorphous, whilst it swells considerably. It shrinks when boiled in water, and is not dissolved even when the process is prolonged. Carmine, picro-carmine, and eosine stain it deeply; hæmatoxyline and aniline-brown not at all. From these reactions it may be gathered that the hyaline substance is most nearly related to colloids, and has little affinity with condensed connective tissue and no affinity with amyloid material.

What is the genesis of this hyaline substance, and what are the beginnings of the process? In a single case only Wieger found an appearance which may possibly represent the first stage of the change, namely, a fusiform swelling of individual vessels, due to the development of cells which lay closely adherent to the vessel-wall and to each other, not unlike leucocytes, or fused together in such a manner that their contours were indistinguishable. Careful examination revealed that the cells were actually an infiltration in the adventitia of the vessel, and that, where the cell-contours had disappeared, the resulting masses bore a strong resemblance to the "hyaline" substance. But whether this appearance actually advances to hyaline degeneration, Wieger declares himself unable to determine. Wieger believes that this hyaline degeneration has no relation to the arterio-capillary fibrosis of Gull and Sutton. It is probably almost identical in most of its characters with the peculiar change which is found in the vessels of

the cortex cerebri and pia mater in dementia paralytica; but there is at present no evidence that the two processes occur at once in the lymphatic glands and in the cerebral vessels—that is, that they are one and the same.

Besides the hyaline degeneration of the vessels of the lymphatic glands just described, Wieger twice met with a somewhat similar, if not identical, change in the proper tissue of the glands, which, however, he believes to be due rather to a chronic inflammatory process. When the process is advanced, the glands are absolutely white or grayish-white, highly anæmic, and not unlike amyloid liver in consistence. The subjects of the disease had died in both instances in a condition somewhat resembling acute tuberculosis.—*Medical Times and Gazette*, March 27, 1880.

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Estimation of Uric Acid by its reducing Action upon the Ammoniated Cupric Test.

At a late meeting of the Royal Medical and Chirurgical Society (*Lancet*, April 3, 1880) Dr. F. W. Pavy read a paper on this subject, of which the following is an abstract.

The author first refers to the importance of being able to determine readily and with precision the amount of uric acid voided for the purpose of studying the conditions which tell favourably and unfavourably upon the uric-acid diathesis, and as a guide to treatment during the management of a case in which the uric-acid deposit occurs. The old methods of estimating uric acid could not be spoken of as meeting the requirements of the medical practitioner either as regards facility of application or precision. The method which the author desired to bring before the notice of the Society is founded upon the reducing action which uric acid, like sugar, exerts upon the oxide of copper. The ordinary form of copper test is most susceptible of application to the purpose, but the ammoniated cupric liquid, which the author has recently introduced[1] for the quantitative determination of sugar is perfectly available. With this test the reduced oxide, instead of falling as a precipitate, is held in solution by ammonia, and a simple decoloration of the liquid occurs as the reduction proceeds.

The mode of preparation and employment of the test having been described, it is stated that the results obtained from observations conducted with known quantities of pure uric acid so closely harmonized with the expression that three atoms of oxide of copper are reduced by one atom of uric acid, as to justify this formula being adopted as the basis of calculation for the process. For the determination of the uric acid in a specimen of urine the reducing power is taken before and after treatment with acetate of lead. The first or total reducing action is in part due to uric acid and in part to the small amount of sugar which urine naturally contains. The addition of acetate of lead effects a precipitation of the uric acid, and the reducing power now obtained represents the reducing power of the urine, minus that of the uric acid it contained. By the difference between the two determinations the amount of uric acid is ascertained. The mode of calculation is given. Results are furnished showing the precision with which known quantities of uric acid added to urine are revealed by the process. To be certain that what is taken as expressing uric acid is in reality due solely to the presence of uric acid, the process was checked against the actual collection and subsequent determination of the uric acid. Results are first given to show that the collection and subsequent determination of uric acid can be carried out in a manner to afford reliable information, and then the two processes, the determination from the difference in the reducing power before and after precipitation with acetate of lead, and by

[1] Proceedings of the Royal Society, vol. xxviii. p. 260, and vol. xxix. p. 272.

actual separation of the uric acid, and its subsequent estimation, were applied to various specimens of urine, and the results compared. The figures obtained present a close accord, and justify confidence being placed in the results derived from the process brought forward.

The author thus concludes his communication: "This completes what I have to say about the process I have described for the estimation of uric acid. The next matter to deal with is the result obtained by its application to the urine under various conditions of health and disease. This is a matter of some magnitude which I must reserve for the subject of a future communication, but I may here state that, according to the observations I have conducted, the figures that have been hitherto given as representing the amount of uric acid present will have to undergo considerable alteration." Dr. Pavy then exhibited the process above described to the Society, and further added some interesting remarks upon the estimation of the acidity of the urine by means of phenol-phthaline, a test which he also exhibited. He said that he had made comparative observations upon the amount of uric acid and the acidity, but his conclusions were not numerous enough for generalization.

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Pilocarpin in the Treatment of Prurigo.

Professor OSCAR SIMON, of Breslau (*Berliner Klinische Wochenschrift*, No. 49, 1879), has used preparations of jaborandi with good effect in cases of prurigo both in adults and children. Hebra's prurigo, which is a rare disease in England, is comparatively common in Breslau, and forms about 3 per cent. of the non-venereal cases in the skin clinic of the University; this method of treatment, therefore, is of less interest to us than to the Germans, but it deserves at least a short mention here. Either subcutaneous injections of one gramme of a 2 per cent. solution of hydrochlorate of pilocarpin or a syrup of jaborandi were used. The latter is an infusion of three parts jaborandi leaves in fifteen parts boiling water, filtered and mixed with eighteen parts sugar. The dose for an adult is two or three tablespoonfuls, for small children a teaspoonful, for older children two teaspoonfuls. After the dose the patient was always wrapped up in blankets for two or three hours. The salivation and other well-known effects of pilocarpin accompany the sweating, which seems so valuable to the pruriginous patients. Professor Simon compares its influence to that of a bath or an ointment. It softens the dry, harsh skin, and probably relieves the openings of the sweat-ducts of the accumulations of epidermis which, as the microscope shows, blocks them in prurigo. On the average, a fortnight's pilocarpin treatment temporarily cures moderately severe cases of prurigo, while a month suffices for all but the very worst. We need scarcely add that it does not permanently cure; relapses occur as under other plans of treatment. Professor Simon has not found pilocarpin of use in other skin affections. In two or three cases of alopecia the result was undecided. He makes some valuable remarks in the second part of his paper on the natural history of true prurigo; especially he points out the difficulty of diagnosing it accurately in the early years of life owing to the similarity of the lesions to those of infantile prurigo (*Lichen urticatus*). He considers that we cannot be absolutely sure of the diagnosis before the end of the fourth year. "A prurigo which runs on after this is incurable." We quote Professor Simon's conclusion without comment, except that we must not be understood to give it our unqualified assent. As to etiology, he agrees with Hebra that the parents of the pruriginous, and especially the mothers, are often phthisical, but he has never seen a case of hereditary transmission, though more than one child in the same family is sometimes affected.—*Med. Times and Gazette*, Feb. 21, 1880.

Surgery.

Relief of Pains in Locomotor Ataxy by Nerve-Stretching.

LANGENBUCH (*Berlin. Klin. Woch.*, No. 48) relates a case of well-marked and very painful locomotor ataxy, in which the acute and sudden attacks of agonizing pain caused the patient great suffering in spite of sedatives. Langenbuch, in this case, finding that the left sciatic nerve was specially affected, tried stretching of this nerve with the best results. The wound healed under antiseptic precautions by first intention; the motor and sensory paralysis disappeared after a few days, and the pains did not recur. Encouraged by this, Langenbuch operated also on both the crural nerves and the right sciatic nerves in the same way, and with the same happy effect on the pains. When the patient made his first attempt at walking, he asserted that he now knew again what he had under his feet, and that he could walk better; and Langenbuch ascertained the unexpected fact that the ataxy had completely disappeared. He proposes at a future time to report his further observations on this case; meantime, he recommends his colleagues, especially in recent cases, to put the treatment by nerve-stretching to further test.—*London Med. Record*, March 15, 1880.

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Cure of Neuralgia by Nerve-Stretching.

In the *St. Petersburger Med. Wochenschrift*, December 20, 1879, Dr. E. MASING reports a case of supra-orbital neuralgia of over three years' standing, which had obstinately persisted notwithstanding various plans of treatment. Although there was tenderness at the point of emergence of the supra-orbital, the most intense neuralgia was in the track of the naso-ciliaris, the infratrochlear, and the ethmoidal nerves. These nerves being out of reach, he determined to attempt to act on them by a thorough stretching of the supra-orbital. This he effected by a free opening of the orbital cellular tissue, exposing the nerve in its entire length along the roof of the orbit. Near the orbital fissure he surrounded it with a blunt hook and so stretched it (inwardly) that its adhesions to the bony roof were broken up. Ten days after the operation the upper eyelid was freely movable. There was complete anæsthesia of the forehead on that side as well as of the cornea. The neuralgic pains gradually lessened in severity, but did not entirely cease for several months. The anæsthesia continued for nearly six months. —*London Med. Record*, March 15, 1880.

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Two Cases of Nerve-stretching.

In the *Berliner Klin. Wochenschrift*, No. 46, 1879, Dr. SCHÜSSLER, of Bremen, describes a successful application of nerve-stretching to a case of mimic spasm of the left side of the face in a lady of thirty-nine. All other treatment having proved unavailing, and the severity of the twitchings being such that the patient's health was suffering from the disturbance of her nightly rest, he exposed the trunk of the facial nerve, with antiseptic precautions, separated it from its sheath, and with a hook forcibly pulled it outwards. After one or two attempts the twitchings, which at first were excited by touching the nerve, ceased in all parts supplied by it except the angles of the mouth and neck. By stretching the branch supplying these parts separately the twitchings were entirely checked. It should be stated that the trunk of the nerve was in a congested state. The operation took place on January 23, 1879; on April 12 the paralysis of the left facial muscles caused by the nerve-stretching had disappeared, there were no

twitchings, and the patient could feel perfectly everywhere except in the lobe of the left ear. She was well in every respect except that at intervals of ten to fourteen days she felt pain in the left brow and upper part of the left cheek, which was worse at the monthly period. She had experienced similar pain, but much more frequently, before the operation. On June 6, 1879, she reported that her health "left nothing to be desired." The twitchings, we should add, were first noticed in the summer of 1871. The second case is published in No. 48 of the same journal, 1879. A man of forty was admitted into the Berlin Lazarus Hospital under Dr. Carl Langenbuch on August 11, 1879, with symptoms of marked locomotor ataxy, with very severe "electric pains" in all the limbs, which could not be relieved by any sedative. The left sciatic nerve seemed the seat of the most intense pain, so Dr. Langenbuch began with that on September 13, operating antiseptically. The nerve-trunk was found on exposure to be injected and somewhat swollen. The stretching entirely removed the pain in that region, and the motor and sensory paralysis which resulted disappeared in a few days. On September 25, the right sciatic and both crural nerves were stretched at a single sitting. The patient was thus not only freed from the pains in his legs, but *the symptoms of ataxy also ceased*. He was able after a short time to walk without assistance, with perfect control over the movements of his legs, and freedom from all disturbance of their sensibility. The arms, which were never affected to nearly the same extent as the lower extremities, and which had undergone no treatment, were still ataxic and painful at the time when Dr. Langenbuch wrote. The further progress of this case will be of great interest. It seems to be one in which the disease involves the peripheral nerves alone. Both in the case here given and in Dr. Schüssler's patient it may be said that it is only since the introduction of the antiseptic method that the operations described could have been attempted without great risk of dangerous after-affects.—*Med. Times and Gaz.*, Jan. 10, 1880.

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Antiseptic Treatment of Head Injuries.

Since 1860, Prof. J. A. Estlander (*Nordiskt Medicinskt Arkiv*, vol. xi. No. 3) has treated 341 cases of injuries to the head, not including those of the face. Previous to 1870 the old methods were followed; since that time Lister's antiseptic treatment has been in use. To render the results of these two epochs more evident, he has divided his cases into three groups: 1. Simple wounds of the integument. 2. Similar wounds with denudation of the cranium. 3. Such as were complicated with fracture of the cranium and lesions of the encephalon. He has omitted the cases where other affections caused sudden death and no treatment of the wounds could exert any influence. From this comparison it would appear that previous to 1870 simple wounds afforded less favourable results than those treated by the antiseptic method, but the difference is not very great. The wounds with denudation of the cranium, on the contrary, gave much more favourable results by Lister's method. By the latter the mortality fell to 1.5 per cent., whereas by the old methods it was 24 per cent. The author considers that this complication should no longer be viewed in the serious light which prevailed previous to the adoption of the new method. The difference is still greater in the third category, for, before 1870, he lost three-fourths of the cases which presented lesions of the bones of the cranium and of the brain, while by the antiseptic treatment he has saved five-sixths of them. This is still more remarkable, as the fractures of the base, where the antiseptic treatment cannot be placed in question, have furnished the same results during the two periods. It is true that the diagnosis of this lesion may have been occasionally doubtful, where death did not

result, but the diagnosis has always been based on the same signs, and the errors it is fair to suppose have been equal. Several cases are related in detail to illustrate this method of treatment.—*Med. Record*, March 27, 1880.

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Disturbances of Vision caused by Injuries to the Skull.

Dr. BERLIN has collected a number of cases which have come under the observation of himself and others, in which amaurosis has followed severe blows on the head. In an interesting paper, read before the Ophthalmological Society at Heidelberg, he has given his views on this subject. These may briefly be summed up as follows: The amaurosis is in by far the greatest number of cases unilateral; it arises suddenly at the time of, or immediately after the injury, and is generally complete and incurable. The injuries giving rise to the amaurosis are almost always severe, such, indeed, as generally give rise to loss of consciousness at the time, and may often be supposed to have caused fracture. The frequency of fracture of the roof of the orbit is very great, as may be seen from the statistics of Hölder. Of 126 cases of fracture of the base of the skull examined by him, 88 involved the base, in 80, or 90 per cent., of which the roof of the skull was fractured. In 54, or 60 per cent., the line of fracture passed through the walls of the foramen opticum, and this independent of the direction of the force producing the fracture. In the 54 fractures of the optic foramen Hölder found extravasation of blood into the sheath of the optic nerve 42 times. No extravasation into the sheath of the nerve was found in any case when the fracture did not involve the foramen. Taking into consideration, then, the severe nature of the injuries causing amaurosis, and the statistics of Hölder, Berlin is of opinion that the amaurosis in such cases is generally the result of injury to the optic nerve from fracture through the foramen.—*Edinburgh Med. Journal*, March, 1880.

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Experiments on Blindness produced by Pressure.

A great many experiments have been adduced lately by Boll, Kühn, Ewald, and others, in support of the theory that retinal excitation is of a photochemical nature. In the last number of *Pflüger's Archives*, p. 614, Professor EXNER describes some phenomena which he considers can only be explained by supposing that there exists in the retina a supply of a sensitive substance acted on by light, which is constantly being replaced from the blood as it is used. The following are the more important of Exner's experiments: 1. If the field of vision be divided into a white and black half, and a point fixed on the line of intersection, whilst at the same time pressure be applied to the eye until the white half becomes almost completely dark, it is found that if a white substance be then presented to the black half of the field it appears of normal intensity, gradually losing its brightness as the fixation is prolonged. 2. If an object be fixed for some time, it will, as is well known, give rise to an after-image, the duration of which depends partly on the brightness of the object and partly on other circumstances which are well known. If, however, the object be fixed whilst the eye is subjected to pressure, the duration of the after-image is greatly diminished, and, if sufficient pressure has been employed, ceases to appear at all. It must be remembered that such experiments are not absolutely free from danger. Care must especially be taken not to release the pressure too suddenly.—*Edinburgh Med. Journal*, Feb. 1880.

Observations concerning the Value of the Audiphone.

Dr. H. KNAPP, of New York (*Archives of Otology*, March, 1880), has been recently making comparative tests of the value of the audiphone and of the dipper-shaped ear trumpet as aids to hearing. The results of his clinical tests are that the audiphone (Rhodes's) produced no increase of the acuteness of hearing in 20 per cent. of the cases, a slight increase (from 1.2 to 1.5 times) in 20 per cent., a moderate increase (from 2 to 5 times) in 60 per cent., whereas the *dipper-shaped ear trumpet* produced an increase of the acuteness of hearing in all cases, slight in 8 per cent., moderate (from 2 to 5 times) in 35 per cent., and great (from 6 to 20 times) in 58 per cent. The audiphone, therefore, is not a *useless* instrument. It increases, in a moderate degree, the hearing power of the majority of very deaf persons; in every case, however, as far as Dr Knapp's examinations have gone, was its value exceeded, and in most cases greatly exceeded, by the ear trumpet.

In addition to the tabulated cases from which these conclusions were obtained, Dr. Knapp has tested others with the same result, and his conclusions are in accord with those of other qualified observers.

Treatment of Strictures of the Œsophagus.

In the course of a recent discussion in the Vienna Medical Society (*Allgemeine Wiener Med. Zeitung*, No. 42, 1879) Dr. WEINLECHNER, who opened the discussion, said he would confine his remarks to the cases requiring œsophageal or gastric fistulæ. One indication for such an operation would of course be the presence of a foreign body so situated that it could be neither extracted from above nor driven downward to the stomach. Besides, there were cases in which scarcely a drop of fluid nutriment could be taken, and finally, there might be a diverticulum of the œsophagus.

He had twice performed œsophagotomy for very tight strictures of that tube. In 1868 he operated upon a woman, aged 34, who had complained of difficult deglutition for seven months, had been able to swallow only fluids for three months, and not even these for three days prior to her admission to the hospital. The patient was much emaciated, was feverish, and coughed incessantly. A large mass was felt at the lower extremity of the pharynx, completely closing the orifice of the œsophagus. A small sound could not be forced past it. The operation was performed, and she was fed with concentrated fluid nutriment through a catheter in the fistula made in the neck, but died on the fourteenth day of pneumonia of the right lung. Examination showed beside this a tubercular infiltration of the lungs, and at the upper extremity of the œsophagus a thick epithelial carcinoma, which involved also the posterior half of the larynx. Were he to again encounter such a case, he would (following Czerny) attempt the removal of the neoplastic growth, even should it involve the resection of a portion of the œsophagus.

Dr. Weinlechner's second case was one of impermeable stricture produced by swallowing concentrated lye. The child had swallowed absolutely nothing for five days; the constriction was in the vicinity of the manubrium sterni. Œsophagotomy was here performed, in the hope of more easily introducing the sound, and it appeared at first to be successful, as the bougie passed through the fistula and beyond with apparently no obstruction. But, as milk was injected through it, the child became instantaneously livid, gasped for breath, and died in twenty hours. *Post-mortem* examination revealed right-sided purulent pneumonia, and proved that the milk had been forced into the loose connective tissue of the mediastinum.

After such experience, the speaker felt more inclined to resort to gastrostomy, particularly as it appears to be more properly indicated in cases of cicatricial or even malignant stricture not situated in the neck, and in case of foreign bodies of unusual size or shape. He referred to the statistics of this operation in carcinoma of the stomach, and stated that Schönlorn's patient had lived for three months after the operation.

Dr. Weinlechner had performed gastrostomy twice. The first patient was a boy eleven years of age, who died of peritonitis in fifty hours. The next was a boy, aged 17, who had two years before swallowed caustic potash and had recovered. When admitted he had been unable to swallow for six days. Introduction of a bougie was impossible. Death followed the operation in thirty hours. In both cases artificial nourishment by clysters proved of no service whatever. Although he had himself been so unfortunate, Verneuil's statistics were extraordinarily favourable.

Professor BILLROTH stated as his opinion that, in the majority of cases of stricture the result of carcinomata, the introduction of bougies only irritated the growths, accelerated ulceration, and caused more rapid death. When unable to pass the stricture with an elastic bougie, he obtained another (elastic and hollow) and filled it with quicksilver, the weight of which sometimes caused it to find its way through. He had sometimes employed bougies of tin, but their use was extremely hazardous. Such patients died either from starvation, marasmus, or perforation of the œsophagus or stomach. He had twice performed œsophagotomy in cancerous strictures, and then from the opening in the neck had pushed past the neoplasm; but both the patients died very soon, and he had given up this plan. Computing that the infiltration of the lymphatic glands occurs quite late in œsophageal cancer, he began to think seriously of the radical removal of these neoplasms. He made his first experiments upon large dogs, cutting out a portion of the œsophagus, and feeding them for a considerable period through tubes. The animals were very tractable, soon learning to come of their own free will to be fed in this manner. On examining these after killing, he found that the borders of the œsophageal mucous membrane so closely approximated, that although an inch and a quarter had been cut out, only a slight annular cicatrix remained. Such experiments were very encouraging. Professor Czerny had done the first operation of this character in the case of a woman. He removed the growth, together with a portion of the œsophagus, but did not permit the fistula to heal because he feared a return. The woman lived at least a year, but her subsequent history was unknown. Partial resection of the œsophagus was also possible, and he considered it advisable to make such attempts, to then close the fistulæ, and introduce food by the mouth. This has proven successful in dogs. He had performed œsophagotomy for the extraction of foreign bodies three times in children and once in an adult. The result was uniformly successful.

Although gastrostomy had been highly extolled during the past few years, especially in cancer of the cardiac orifice, Dr. Billroth could not recommend it, as the procedure had thus far given the patients only a very brief respite. He believed the same statement would apply with equal force to the formation of artificial anus in cancer of the rectum. He did not think much had been gained in the single case in which he had so operated. The patient's nutrition was improved, he lived an entire year, but his pain was not at all alleviated. Finally, Dr. Billroth narrated two unfortunate cases in which, on introducing the sound through the œsophagus, a perforation of the stomach had resulted, causing diffuse peritonitis and death within twenty or thirty hours. He relied very little in any of these cases upon artificial nourishment by enemata.

Professor Weinlechner referred to several cases in which death came on with the symptoms of perforation of the œsophagus, in which *post-mortem* examination failed to discover any wound. In all these, however, pleuritis was present. Professor Billroth stated that in distension for the passage of fluids the cicatrix might be torn, and thus a pericesophagitis, mediastinitis, and pleuritis might rapidly follow.

Dr. Teleky mentioned two cases of œsophageal stricture, the introduction of sounds through which proved unsuccessful. In one he perforated after he had repeatedly passed it with great ease. Section proved that death of the tissues had taken place about the stricture, thus rendering perforation almost unavoidable. In the second case, fatal hæmoptysis followed, but no perforation was made. The discussion concluded with the report by Billroth of one, and by Weinlechner of several cases of œsophageal stricture caused by syphilitic ulceration.—*London Med. Record*, March 15, 1880.

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Diagnosis of Carcinoma of the Mammary Gland.

In an instructive clinical lecture on the life and diagnosis of mammary carcinoma, based upon a study of one hundred cases, Dr. Samuel W. Gross, Surgeon to the Philadelphia Hospital, makes the following remarks (*Boston Med. and Surg. Journal*, March 25, 1880) on diagnosis and treatment:—

The points in favour of carcinoma are, non-development before the age of twenty, greatest frequency after the fortieth year, irregular shape, almost uniformly densely hard and knobby feel, immobility in the gland, attachments to the skin and deeper structures, solitary origin, comparatively small volume and slow growth, retraction of the nipple, infiltration of the lymphatic glands, invasion of the skin by small nodules, non-enlargement of the subcutaneous veins, limited ulceration, without any tendency to fungous protrusion, and the thickened, indurated, and everted edges of the ulcer.

The diagnosis of the non-carcinomatous tumours is based, on the other hand, upon their occurrence in every sixth case before the age of twenty, their greatest frequency before the fortieth year, their multiplicity in one breast, their peripheral situation, their rounded or ovoid and bossed outline, the firm consistence of the smaller and the unequal feel of the larger, their mobility in or on the gland and the adjacent tissues, their comparatively rapid growth and bulky size, the natural appearance of the skin, the enlargement of the subcutaneous veins when they are voluminous, their tendency to ulcerate and protrude late in the disease, and the absence of adhesions between the fungus and margin of the ulcer, and their freedom from retraction of the nipple, nodules in the skin, and taint of the associated lymphatic glands.

Among the more prominent signs of carcinoma are those which indicate local infection of the surrounding tissues, and a knowledge of the date of their appearance will prove serviceable in deciding the question of an operation. Nodules may be looked for in the skin in fourteen months, the contaminated lymphatic glands of the axilla may be detected in fifteen months, ulceration may be expected in seventeen months, and deep adhesions take place in twenty-one months. These figures denote the average dates; but I have known infiltration of the skin, pectoral muscle, and glands, and ulceration, to occur as early as four months, and to be postponed, on the other hand, for several years. Glandular involvement, indeed, may show itself as early as the first month, or even before the primary tumour can be felt; and from the fact that the glands are buried in the fat of the axilla, thereby evading early detection, I believe that their invasion antedates that of the skin. Be this as it may, if you are about to operate on a case in

which there is nodular infiltration of the skin, you should be prepared to open the axilla and search for infected glands, even if they cannot be distinguished from without.

Finally, I desire to state that I am no believer in the constitutional origin of carcinoma, and that I am convinced that we will obtain good results after operation if we can only secure cases in which the disease is limited to the gland itself. Even when the skin over the breast is infiltrated to a slight degree, and the lymphatic glands of the axilla are not too seriously involved, I believe that we may prolong life, if not obtain a radical cure, by extirpation. To do this, however, you must discard the operation as you usually see it performed, and remove the entire gland, with all its coverings, by a circular incision, dissect away the pectoral fascia, and clean out the axilla. In other words, do not aim to secure a covering for the wound, but practise thorough excision.

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On the Treatment of Cancer of the Female Generative Organs by a New Method.

In a communication to the *Lancet* (March 27, 1880), Prof. JOHN CLAY, Obstetric Surgeon to the Queen's Hospital, Birmingham, strongly recommends Chian turpentine in the treatment of cancer of the female generative organs, and also cancer of other organs; and from the results which he has obtained, he says, it may be confidently stated that the remedy exerts a powerful action on cancer of the female generative organs in particular, and it will be of advantage to point out some of the conclusions at which he has arrived respecting the efficacy of the drug and the manner in which it should be employed. The oil of turpentine, if it produces any effect on cancer, is inadmissible on account of the speedy production of its specific effects even when administered in small doses. The same remark applies with less force to the Venice and Strasbourg turpentines; in his hands they have not produced the same beneficial effects on cancerous growths as the Chian turpentine has done. The maximum dose of the last-named drug which can be safely and continuously given is twenty-five grains daily. It is advisable to discontinue the remedy for a few days after ten or twelve weeks' constant administration, and then to resume it as before. The combination with sulphur was given at first, and has been continued. It is doubtful whether much benefit is derived from the combination, but the effects have been so uniformly good with it, that it was thought advisable to continue its use. There is every reason to believe, from the trials made with other substances in combination with the turpentine, such as carbonate of lime, iodide of calcium, ammoniated copper, quinine, bebeerine, hydrastin, etc., that the turpentine is best administered simply, as the most marked and rapid effects have always been manifested when it has been given alone.

The turpentine appears to act upon the periphery of the growth with great vigor, causing the speedy disappearance of what is usually termed the cancerous infiltration, and thereby arresting the further development of the tumour. It produces equally efficient results on the whole mass, seemingly destroying its vitality, but more slowly. It appears to dissolve all the cancer cells, leaving the vessels to become subsequently atrophied, and the firmer structures to gradually gain a comparatively normal condition.

It is a most efficient anodyne, causing an entire cessation of pain in a few days, and far more effectually than any sedative that Dr. Clay has ever given. In the cases he describes no sedative was employed in any instance, although in some cases where great pain had existed previously to commencing the treatment, large doses had been given. Whether this arrest of pain arises from the death of the

tumour, or is due to there being no longer irritation of the sentient nerves (in consequence of tension being withdrawn by the removal of the cells), the fact is the same.

If, after the use of the remedy for some weeks, one of these cases were examined by a stranger for the first time, he would probably conclude that it was one of commencing malignant disease, by reason of the irregularities of its surface. The effect of the remedy being first to remove the cellular structures, any loss of tissue produced by the invasion of the disease cannot be restored, and hence the irregular touch and appearance even after cicatrization. The arrest of the hemorrhagic discharge and the remarkable freedom from glandular affections, after a lengthened use of the turpentine, are specially important factors in materially aiding the removal of the cachexia and of improving the general condition of the patient.

Without being in a position to affirm that the Chian turpentine is a positive cure for advanced cancer of the female generative organs, yet however the facts here adduced may be interpreted in this respect, two circumstances are indisputable—one, that all the patients after several months' treatment are living, and that the disease has not advanced as is usually the case, but has retrogressed—in fact, has all but disappeared; and it may at least be safely asserted that when the remedy is steadily used for some time it arrests the progress of the disease, and relieves the pain incidental to the morbid growth in a manner which cannot be said of any other remedy. It is probable that on an extended experience of its use and by variations of the mode of administration, it may prove an effectual cure for this intractable disorder. Patience and perseverance on the part of patient and medical adviser are absolutely required. We know that in some diseases, as bronchocele and syphilis, a long continuance of well-known remedies is often necessary to effect a cure of the particular disorder, and that the administration of the remedies has to be varied from time to time, according to the therapeutic effects produced by the drugs. In cancer, as far as experience has at present indicated, the same alternating method may perhaps have to be employed. Whatever may be the ultimate results, there can be no doubt that Chian turpentine in these disorders is a most valuable medicine. Judging by Dr. Clay's experience, it is no figurative expression to say that it acts as a direct poison upon the growth, probably causing its ultimate death. In advanced cancer the process of reparation is slow, but if the surrounding structures are not too much involved in the process of destruction, it will seem that a cure may be reasonably expected. It is not that the remedy has failed against the cancer, but that the vital organs are so much destroyed that their complete reconstruction and adjustment of functions are not possible, and life fails in consequence of their mutilated condition. Even under these circumstances, if the cancer does not recur, the efficacy of the medicine is obvious. In the early stages of cancer it may be affirmed that an undoubted cure may take place speedily, and as the contiguous structures are not extensively involved, but little deformity ensues; and experience justifies the expectation that under such circumstances a recurrence of the disease will not follow.

The following is the formula which Mr. Clay uses: Solution of Chian turpentine, half an ounce; solution of tragacanth, four ounces; syrup, one ounce; flowers of sulphur, forty grains; water to sixteen ounces: one ounce three times daily.

The *Lancet* (April 3, 1880) calls attention to the importance of making sure that the drug employed is certainly what it professes to be. As a matter of fact, it is by no means easy to obtain Chian, or Cyprus turpentine. So long ago as the date of the publication of the earlier editions of Pereira's Materia Medica,

there was so much difficulty in procuring the substance that the profession was especially warned against the almost inevitable substitution of Venice or Canada turpentine, or some other terebinth of totally different properties, in dispensing of prescriptions, for Chian turpentine. Probably there is scarcely any of the true resin in the market at present, and only druggists who happen to possess a small forgotten store *can* supply it. We think it desirable to make this intimation for the sake of medical practitioners who may be anxious to try the remedy, but who are almost sure to be disappointed, unless they take more than ordinary measures to ensure accuracy. As Professor Clay stated in his paper, no other terebinth except the Chian has been known, or can be expected, to produce the effects which have followed its use in his cases. The public should also be cautioned against resorting to the remedy, without skilled medical advice and supervision; and very earnestly must they be made to understand that probably not a tithe of the medicine likely to be sold under the name of "Chian turpentine" during the next few months will be genuine. The caution given to the profession years ago by the then highest authority on the subject of pharmacy, at a time when there was no special demand for the drug, will be doubly necessary now, when nothing but the accident of having a small reserve on hand can enable any druggist to dispense it. It only remains to add that some of the received descriptions of *Terebinthina Chia* seu *Cypria* are so faulty that identification of the genuine drug will be attended with more than ordinary difficulty. It is the gum of a tree growing thirty or thirty-five feet in height, and is obtained by cutting crosswise with a hatchet the trunks of the largest trees. The yield is very small, "not exceeding eight or ten ounces" for each tree; so that it must be obvious that the bulk of the material sold under this designation at two or three shillings a pound is not genuine. Its consistency is that of honey, but it is more glutinous. The colour is greenish-yellow. It has an agreeable turpentine-like odour, combined with the odour of fennel or citron and jasmine. Its taste is very mild. By keeping it resinifies, and, we may add, loses some of its virtue. The coniferous turpentines, which do not possess its special qualities, are usually sold for it.

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On the Treatment of Gonorrhœa.

It might be thought that all has been said that can be said on the treatment of gonorrhœa, but the experience of so distinguished a specialist as Prof. ZEISSL, of Vienna, detailed in a communication to the *Wiener Med. Wochenschrift* (1879, Nos. 38, 39, and 40), cannot fail to prove of interest to our readers.

The object he has in view, he says, is to indicate some of the leading points in the treatment of catarrhal disease of the male urethra; and he enters into details upon the subject, because both his hospital and private practice have too often given him the sad opportunity of observing that both old and young practitioners are not always careful enough in avoiding manipulations that are highly injurious to the urethra, as, for example, the employment of concentrated solutions for injections.

1. *The Direct Treatment of Acute Gonorrhœa.*—As every one knows, we can treat gonorrhœa either by direct applications to the urethra, or indirectly through the digestive organs. In the direct treatment, before all things, we must insist upon the patient wearing a suspensory, in order to prevent traction on the testes. He should take no beer or champagne, or any drink which contains much carbonic acid in the nascent state, as this gives rise to dysuria. Meat in the evening and late meals should be avoided, as favouring the occurrence of nocturnal pollutions, aggravating the patient's condition. The same may be said of the sitz-bath taken late in the evening. During the acute stage, if there still exist

severe pain, especially after passing urine, and stabbing pains at the posterior part of the urethra—one of the earliest symptoms of gonorrhœa—we may confidently begin the treatment by the injection of a very weak solution of an astringent metallic salt. After the first effective injections the pains are considerably diminished, the urine is passed more easily, and the slight fever which is often present disappears. The relief of the pain may also be hastened by tepid sitz-baths. It is an interesting fact that the patient who at the beginning of the gonorrhœa can only pass urine amidst the severest pain is able to empty the bladder while in the bath with the greatest ease and comfort. With regard to the injections, they should at first be as weak as possible, so that they may never act as caustics, but only as astringents. The substance from which Prof. Zeissl has derived the best results is the permanganate of potash, of which he prescribes two centigrammes in 200 grammes of distilled water, thrown in four times daily by means of a caoutchouc syringe, care being taken to prevent the entrance of air, the presence of even a small quantity of which in the urethra suffices to induce severe dysuria. If this occur, or pains arise in the testes, the injections must be suspended, and the symptoms suitably treated. As already stated, it often happens that after a few injections the pain diminishes, and all traces of the gonorrhœa frequently disappear after only a week's employment of the permanganate. If, however, after using this very weak solution for a week no essential improvement has taken place, it may be strengthened by a centigramme; but Prof. Zeissl never goes beyond fifteen centigrammes in the 200 grammes of water. A rule to be observed is not to continue the same injection for too long a time, as the urethra becomes accustomed to the presence of the medical agent, the further employment of which is then useless. Therefore, if the permanganate does not cause the disappearance or diminution of the purulent discharge after it has been employed ten or twelve days, a weak solution (thirty centigrammes to 200 grammes) of sulphate of zinc should be substituted, gradually increasing the strength to five decigrammes. If this does not succeed, Prof. Zeissl then resorts to the employment of insoluble bodies, such as bismuth, kaolin, or the acetate of lead, prescribing five parts to 200 either of bismuth or kaolin, or two parts of sulphate of zinc and two parts of acetate of lead to 200 of distilled water. Injections containing these suspended bodies must be well shaken, so as to cause a uniform distribution of the precipitate in the urethra. This powder may remain in the urethra for a long period—and at all events until the next discharge of the urine; and when it is forced into the glandular orifices of the prostate it often remains there for a fortnight or longer. This circumstance explains the beneficial action of these suspended substances, as they remain in close and prolonged contact with the membranous and prostatic portions of the urethra and with the prostate itself—the parts in which the catarrh exhibits the greatest obstinacy. After the injection of these substances, a circumstance is often observed which may cause the patient unnecessary alarm. When the injections have been employed for fourteen days or so, he may perceive, when discharging hard fecal masses from the rectum, that little granular bodies, adhering to each other by means of filaments, issue from the urethra. They can be broken up by the fingers, and are nothing else than portions of the bismuth or kaolin which had remained in the prostatic canals cemented together by the secretions of the prostate.

If, in spite of the means employed, some remains of the gonorrhœa still exist; if the urethra is found stuck together in the morning; or if, on syringing it out with clean water, this is found, when examined in a glass tube, to contain mucous filaments or epithelium—it is then proper, besides using the injections, to introduce a gum-elastic bougie. For this purpose, Prof. Zeissl employs a

conical elastic bougie of moderate size (from 10 to 14 of Charrière's scale), and having well oiled it and passed its end through a powder composed of starch, kaolin, or bismuth, passes it into the urethra at least as far as the sphincter vesicæ, and allows it to remain there for five or ten minutes. From this procedure he has obtained highly favourable results in gonorrhœa which may have lasted for years. Nor has he ever met with any ill effect arising from it, or any consecutive disease (as the formation of stone) resulting, numerous autopsies having shown that the powder is not introduced into the bladder, but is all smeared over the urethra. When by the use of all these means a cure is still not effected, we may then resort to solutions of alum, tannin, sulphate of cadmium, or acetate of zinc, and to the introduction of lithotomy sounds until the largest which the urethra admits of has been attained. This last procedure will be again noted when treating on affections of the prostate consequent on gonorrhœa. The following are the formulæ which Prof. Zeissl recommends: ℞. Sulph. cadmii 30 centigrammes, aquæ 200 grammes. ℞. Alum. 5 grammes, aquæ 250 gr. ℞. Sulph. cupri 5 centigr., aquæ 250 gr. ℞. Acet. plumbi basici soluti 5 grammes, aquæ 250 gr. ℞. Acet. zinci 1 gramme, aquæ 250 gr. ℞. Acet. zinci 1 gramme, aquæ 250. ℞. Acet. zinci, tannini puri, āā 50 centigr., aquæ 200 gr. ℞. Acet. zinci 70 centigr., tinct. catechu 1 gramme, tinct. opii gtt. x, aquæ 200 gr. ℞. Liq. ferri sesqui. soluti gtt. xx, aquæ 200 gr. Or urethral suppositories may be formed of equal parts of kaolin and glycerine, and used four times daily. When the subjects of gonorrhœa complain of very severe pains along the perineum, and especially on sitting down, either extract of belladonna suppositories (℞. Ext. bellad. 7 centigr., butyri de cacao q. s., f. x. parva suppositoria) may be introduced into the rectum, or seven centigrammes of acetate of morphia may be added to any of the injections. Or again, urethral suppositories may be formed of seven centigrammes of muriate of morphia divided into ten. Prof. Zeissl attaches great importance to the not having too early recourse to the more powerful action of the above substances especially the sulphate of copper. His experience has taught him that if at the beginning concentrated and caustic injections are employed, they may give rise to very violent reaction; and in one case he met with, the whole of the mucous membrane of the urethra was discharged like the finger of a glove, accompanied by great hemorrhage, in consequence of using a concentrated sulphate of copper injection. So, also, violent pain and a great increase of the discharge were induced by an injection containing five grammes of the hypermanganate of potash to 200 of water. These examples, to which many others might be added, suffice to show that concentrated, and therefore caustic, liquids act very mischievously on the urethra. Further, it is a fact that, by the use of these injections, the disposition which gonorrhœa already possesses to induce stricture of the urethra is increased; and, indeed, caustic injections will often suffice alone to give rise to this affection.

2. *Direct Treatment of Chronic Gonorrhœa.*—By the term chronic gonorrhœa, Prof. Zeissl understands a disease of the urethra which is limited to a small portion of the canal, most frequently quite its posterior part. There is only a spare seromucous secretion, and rarely slight pain, especially seated at the diseased portion of the urethral mucous membrane. Patients suffering in this manner must be asked whether the stream of the urine has latterly considerably diminished in size, for a similar chronic catarrh of the urethra will very frequently be produced by stricture. A sound (from No. 15 to 18 of Charrière's series) should be passed in order to ascertain whether the calibre of the urethra is narrowed. For those accustomed to the examination of the urethra, an elastic bougie will serve as well; but for those who have not had large practice in catheterism the sound is to be preferred, because with a solid instrument injury to the urethra is less

likely to be produced than with an elastic one; while entanglement of this last in a fold of the urethra may lead to a diagnosis of stricture being made where none such exists. Very often the patient is able, on the introduction of an instrument, to indicate exactly the diseased spot, by the pain occasioned there. We must not, however, trust too much to this indication, for the patient is often, on the first introduction of an instrument, in too anxious a state of mind to be able to afford any exact information. Patients constantly complain of a painful sensation when the instrument passes over the caput gallinaginis. During the withdrawal of the instrument, even those who have had but little practice with it can easily detect irregularities in the urethra when they are produced by granular growths, small polypi, etc., and sometimes are enabled to discover the diseased portion. Several methods have been devised for the direct application of medicinal substances to the small isolated diseased part of the urethra. Bougies or catheters on which such substances have been smeared, and syringes with catheter-like pipes, allowing the astringent fluid to be applied drop by drop at the posterior part of the urethra, are among these. The efforts which have been made to render the membrane of the urethra as visible as that of the vagina, and which have given rise to the invention of the endoscope, have not, in Prof Zeissl's opinion, been very successful. By its aid some interesting pathologico-anatomical facts have been established; but no material improvement in the treatment of prolonged gonorrhœa has attended the use of this instrument. Out of hundreds of cases in which he has employed the endoscope, Prof. Zeissl has only succeeded in effecting a cure in two instances by pencilling the diseased portion of the mucous membrane. He has therefore well-nigh given up this mode of treatment. He recommends that endoscopy should be practised upon the cadaver, and especially with the straight endoscope, which requires great dexterity for its introduction.

The same method of treatment must be continued in the chronic as in the acute form of gonorrhœa, and in the great majority of cases it will prove successful. Especial advantage will be gained by the well-timed introduction of the elastic bougie and sound, which will be referred to again.—*Med. Times and Gazette*, Feb. 14, 1880.

(*To be concluded.*)

Acute Osteomyelitis and its Causes.

Dr. KOCHER (*Centralblatt für Chirurgie*, No 39, 1879) says that acute osteomyelitis is produced, like other inflammations, by infection, but still it is not a *specific* infectious disease. His observations were made on fifty-two cases, of which, however, only thirty were positively demonstrated to be cases of acute osteomyelitis. Of these thirty cases twenty-six were males and four females; all were between 8 and 25 years of age. In a few of the cases the patients had caught cold or had received an injury; in seven cases the osteomyelitis was secondary, having developed in one in the course of a typhus, and in the others during the existence of inflammatory processes in different parts of the body. Kocher believes that osteomyelitis is excited by the action of agents which may exist for some time in the body without giving rise to the general symptoms of infection of the bones. The bones which grow the most rapidly are the most frequently affected; hence certain spots, such as the lower end of the femur and the upper end of the tibia, present a special *anatomical predisposition*. In the experiments on animals several methods were employed. 1. Agents which exerted a physical or a chemical action (liquor ammoniæ, tincture of cantharides, croton oil) were tried with antiseptic precautions. 2. Decomposing fluids and

pathological secretions were injected. 3. The first method was combined with the internal administration of putrid matters. The first method as a rule failed, while the third succeeded. True metastases in other organs were not observed. Hence it follows, that under some circumstances irritant matters may pass from the intestinal canal into the bony marrow, and give rise to osteomyelitis. In acute osteomyelitis disturbances of function of the adjacent joints often precede the other symptoms; purulent effusions into the joints may also occur early. If the abscess be opened, the epiphyses will often be found separated. The pus frequently contains free fat. The lymph-glands are only slightly implicated. The fever is usually high from the beginning, without morning remissions, and sometimes remains high for some days after the abscess has been opened. Recovery, when it occurs, is greatly protracted by the necrosis, which almost always occurs. Death occurs either from multiple acute pyæmia, with metastases in the lungs, kidneys, and heart, or from the development of secondary inflammations in some internal organs (pyelo-nephritis, pleurisy, etc.), after the original bone disease has begun to improve. There is also danger of septicæmia after the abscesses have opened. Kocher divides the affection into three stages from a pathologico-anatomical standpoint. 1. The stage of purulent infiltration of the medulla, with the formation of isolated foci of disease; from these the pus extends to the periosteum and synovial membrane. 2. The stage of formation of abscesses and sequestra in the cortical and spongy tissues, and in the epiphyses. 3. The stage of repair. The osteomyelitis becomes chronic in the form of chronic osteitis, or of abscess of bone; the former terminates in osteosclerosis or in osteoporosis. In the way of treatment Kocher recommends the salicylate of soda in doses of a drachm and a half to 6 drachms daily, or if that is not borne, alcohol in larger quantities. Locally, he advises the evacuation of the pus by puncture, and the injection of a 5 per cent. solution of carbolic acid, one or more hypodermic syringefuls daily. The fluid should be injected not alone into the abscess, but also by means of hollow drills into the medulla. If the abscess have already broken, free incisions should be made down to the periosteum, and strict antiseptic dressing employed. If the joint be involved it can sometimes be saved by washing it out with a 5 per cent. solution of carbolic acid, but amputation will often be necessary.—*London Med. Record*, March 15, 1880.

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Suppuration of Joints after Acute Rhaumatism.

This sequela of rheumatic fever is admitted by all authorities to be very rare, and some have even doubted its occurrence. Nevertheless, Dr. W. KORTE, Assistant Surgeon to the Berlin Bethany Hospital (*Berl. Klin. Wochenscrift*, No. 4, 1880) reports six cases which came into the surgical clinic between August, 1877, and June, 1879. Four of them were treated for the rheumatism in the medical wards and transferred, and the two others came directly under surgical treatment from outside; but in every instance there was no possible doubt of the true nature of the primary disease. None of the cases were pyæmic. All were women of ages ranging from twenty-one to forty-eight years. Two were previously strong, the rest of delicate constitution. Two had endocarditis. All had been treated with salicylic acid, but the usual effect was not produced by it, and the disease seemed to linger obstinately in one of the affected joints after the others had recovered. The suppuration was indicated by severe pain on movement and handling, by distension of the joint capsule, redness and swelling of the soft parts, and fever, especially at night. In three patients the knee-joint was affected, and in three the ankle-joint. In two at least of the latter the inflammation was limited to the synovial membrane, and the cartilages were intact; these

were treated antiseptically with incisions on both sides of the joint, washing out with 3 to 5 per cent. carbolic solution and drainage. Recovery took place with movable joints. The third ankle-joint required partial excision, and its movement was consequently less perfect than in the other two. All three cases of suppuration in the knee-joint had advanced to injury of the ligaments, cartilages, and ends of the bones, and resection was necessary in all. Two of these patients recovered extremely well; the third died of gangrenous bedsore. Dr. Körte considers that the treatment adopted for the ankle-joint is the best possible, when the deeper parts of the joint are still intact, and the suppuration remains what he terms "catarrhal." He suggests that the frequency of suppurative joint-affections after rheumatic fever in the cases before us may have depended on the character of the epidemic during which these cases occurred, just as some epidemics of typhoid fever, scarlet fever, etc., are specially followed by joint-inflammations. Curiously enough, he does not refer to the salicylic treatment as having any possible causal connection with their occurrence.—*Med. Times and Gaz.*, March 20, 1880.

Result of Excision of the Lower Ends of the Radius and Ulna for Myeloid Tumour.

At a late meeting of the Clinical Society of London (*Lancet*, Feb. 21, 1880) Mr. HENRY MORRIS exhibited a woman from whom he had removed a myeloid tumour of the radius about four years ago. The case is recorded in vol. x. of the Transactions. The lower part of the radius and four inches of the ulna were removed. Dr. Gross, of Philadelphia, in a recent paper,[1] had collected nine cases, which he regarded as unsuccessful, including this one, the details of which, however, he had only gathered from a journal report; for the patient's hand was sufficiently useful to enable her to follow her household duties. She could sew, wash linen, using her index and middle fingers, and the case showed that excision should not be condemned too hastily as opposed to amputation. Mr. Morris wished now that he had removed as much of the ulna as of the radius, for from retraction of the parts the end of the former projects over the carpus.

Midwifery and Gynæcology.

The Value of Disinfecting Intrauterine Injections.

Dr. HOFMEIR contributes a short paper on this subject to the *Centralblatt für Gynäkologie* (No. 5, 1880). He objects to needless employment of intrauterine injections as likely to be dangerous, and supports his view by reference to 260 normal cases in which intrauterine disinfecting injections were used, and of whom 42, or 16 per cent., were the subjects of inflammatory processes in connection with the genital organs; whilst of 249 cases treated without injections only 19, or 8 per cent., were so affected. Of the 42 cases 8 were seriously affected, and of the 19 only 1. The author, however, holds that if, during the labour, fermentation and putrescent processes have been started, as evidenced by the formation of gases in the uterus and fever in the patient, disinfectant injections are not only not objectionable, but are urgently necessary, and give excellent results. The strength, however, must be considerable, so that the injection shall be slightly caustic. Dr. Hofmeir recommends a solution of carbolic acid, 1 in 20 of water, to be employed in such cases, and maintains that he has seen excellent results

[1] Am. Journ. Med. Sci., July, 1879.

from this. The author recommends the same treatment to be adopted after stinking abortions and such like conditions.—*Edinburgh Med. Journal*, April, 1880.

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The Fungosities of the Umbilicus in Newly-born Children.

M. Ch. Féré has contributed to the Société Anatomique of Paris (*Progrès Méd.*, Dec. 20, 1879) a note on this subject. These growths are far from rare, but yet, from certain points of view, have been little studied. They generally show themselves during the four or five days following the fall of the cord, and rapidly develop. They present themselves under several forms. They are often fine, almost perfectly cylindrical projections, only two or three millimetres in thickness, but possibly attaining the length of a centimetre or more; they then project beyond the level of the abdominal wall, but they are only well seen on unfolding the umbilical depression. This cylindrical appearance has led to the view that they may be formed by a vessel, either a vein or an artery, which has not been divided at the same level as the rest of the cord. Yet more often these tumours look like pimples, sometimes sessile, sometimes pedunculated, more or less regularly rounded, rosy, of a fungous appearance, rarely bleeding; if they are small they are only noticed if one is warned of their presence by prolonged suppuration, and unfolds the umbilicus; sometimes they reach a considerable size, and it has even been possible to compare them to small cherries (Simpson); most commonly they are about the size of a small pea. They seem not to have any tendency to spontaneous cure. Astley Cooper has observed one which he attributed to the remains of the cord in a child seven years old; although it bled, and was sometimes painful after irritation, it might, he says, be at first mistaken for an umbilical hernia. The cylindrical vegetations can be destroyed by cutting them off, or by ligature; the operation does not provoke hemorrhage, and the tumour is not reproduced. The sessile tumours are easily repressed by cauterizations with nitrate of silver; it is not prudent to destroy them by more energetic measures without the most minute precautions; in one case, after destruction by caustic, fluid ran out, there existed under the fungous cicatrix an entero-umbilical diverticulum which had been opened. The histological structure of these tumours is little known. Kustner has distinguished three varieties: 1, the granuloma of Virchow, which is the most common form; 2, the vascular fungus (myxosarcoma telangiectasique de Virchow), more rare; and, 3, adenoma. This author has also found in some of these tumours smooth muscular fibre, and all the elements of intestinal mucous membrane. M. Féré has examined two specimens. One was of the cylindrical kind, and was cut off with scissors eleven days after birth. Its tissue had all the histological characters of a round-celled sarcoma. It was covered by a layer of epidermis. The other was of a cylindro-conical form, and of the size of a grain of wheat. It was cut off by a ligature put round its base. Histologically it was composed of a sarcomatous tissue more advanced than the preceding one, in parts the tissue was even fibrous; the vessels were smaller than in the first case, a fine layer of epidermis covered its surface. It was histologically a sarcoma with a tendency to the formation of fibrous tissue. It may, therefore, be considered as an example of a neoplastic process which, while presenting all the histological characters of sarcomatous tissue, yet has none of the clinical characters ordinarily associated with such growths.—*Obstetrical Journal of Great Britain*, March 15, 1880.

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Prolapsus Uteri: Elytrorrhaphy after the Method of Lefort.

At a late meeting of the Société de Chirurgie de Paris, M. Parras stated (*Le Progrès Méd.*, Dec. 13, 1879), that this operation had now been performed

three times, by Lefort, Rancarol, and Panas respectively. The case he brought before the Society was that of a woman, aged thirty-six, who had suffered from complete prolapsus for seven years, since the birth of her last child; her perineum had also been lacerated. She died from another disease more than two years after the operation, and during this time the cure was complete. The operation consists in uniting in the mesial line the anterior and posterior vaginal walls, so as to make two lateral vaginæ. The surfaces freshened were about six centimetres in length, by two in breadth, and the raw surfaces were kept in contact by twelve sutures, one above, five on each side, and one below. M. Panas thinks this operation better and easier than that of Sims. It is easy to denude the surfaces and to pass the sutures, because the parts, being prolapsed, are at, or outside, the vulva. The anterior sutures are the last inserted. It is true that at the end of the long and narrow lateral vaginæ formed by the operation there is great difficulty in withdrawing the sutures. To meet this objection, M. Panas proposes to use catgut stitches, which, as they will be absorbed, the surgeon need not trouble himself to remove. Although the parts vivified are very close to the peritoneum, yet no evil result has followed in either of the three cases. The only inconvenience is the obliteration of the vagina, an inconvenience of which it is the bounden duty of the surgeon to previously inform the patient.—*Obstetrical Journal of Great Britain*, Feb. 1880.

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Fibroid Tumours of the Uterus, and their Treatment by Continuous Currents.

This paper by CHERON (*Gaz. des Hôpitaux*, 1879, p. 226) is the result of twelve years' observation of forty-two cases of uterine fibroids. The galvanic current applied continuously, one pole to the uterus, the other externally, gave no results even after one hundred or more applications. The induced current was found difficult to bear when applied with sufficient strength. The author then resorted to the interrupted galvanic current, placing one pole (positive) on the cervix, the other on the abdomen, and interrupting the current every second. [No clear directions as to the length and strength of the applications are given.] The results were most favourable, and were probably due to the stimulating and catalytic influences of the current. Several cases are described, in which the hemorrhage disappeared, the tumour diminished in size, and the general health improved. The author does not, however, allege that he obliterated the tumour entirely.—*London Med. Record*, March 15, 1880.

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The Complete Extirpation of the Cancerous Uterus by Freund's Method.

SOLOVIEFF, of Moscow, reports (*Archives de Tocologie*, Jan. 1880) the case of a patient aged forty-three, who had had four children. She had been suffering from pain, with hemorrhage and fetid discharge for eight months. To vaginal examination the cervix uteri seemed healthy, except that it was somewhat thickened; but after the os externum had been enlarged by incision, it was found that the interior of the neck and body of the uterus was covered with dense projecting excrescences. The operation was performed with the strictest antiseptic precautions. Its details are fully described, but cannot well be abbreviated. The patient died twenty-six hours afterwards. Death appeared to have taken place from shock, combined with septicæmia. The author considers that it is very difficult to draw a parallel between the extirpation of the cancerous uterus and ovariotomy; first, because when the cancerous patients come under notice the disease has generally already made considerable progress, and the general health has seriously suffered. Added to this, there is the section of the peritoneum

in two places, and the greater length of the incision required. But the great disadvantage of Freund's operation consists in the fact that the intestines have to be drawn out of the abdominal cavity, and retained there by the pressure of a cloth; whereas in ovariotomy, on the contrary, the intestines generally remain within the abdomen. This is the explanation of the frequency of death from shock after Freund's operation. The following are the chief points in which the author thinks that the operation needs improvement: 1. It is necessary to find a mode of operating without drawing the intestines out of the abdomen. 2. The operation needs to be made as short as possible, that the intestines may not be chilled, and that the patient may not be longer under chloroform than can be helped. The author goes on to mention nine other points, all of which refer to operative details. He gives a table of all the cases which he knows of, in which the operation has been performed up to the present time. There are 47 cases, of which 12 recovered and 35 died. He thinks that these figures are enough to convince any sceptic of the legitimacy of the operation, and that the operation will in the future take a foremost place in surgery.—*Obstetrical Journal of Great Britain*, Feb. 1880.

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Successful Removal of the Uterus and one Ovary for the Relief of a Subperitoneal Uterine Tumour.

Dr. W. THORNLEY STOKER recently brought before the Surgical Society of Ireland (*Med. Press and Circular*, Jan. 28, 1880) a case of this. The tumour had been first noticed two years and a half before the operation. It was freely movable, lay chiefly to the left side of the abdomen, and was so elastic as to give a doubtful sensation of fluctuation both to the finger and when percussed. Even when the division of the abdominal wall had been completed and the surface of the growth laid bare, it was impossible, until an attempt had been made to push a trocar into it, to say whether it was solid or fluid. The uterine cavity was of normal size. Every part of the uterus that could be felt by the finger in the rectum was of natural size and character. The vagina was not elongated, and nothing abnormal could be detected by digital examination either per rectum or per vaginam. These features made it very difficult to determine whether the tumour was uterine or ovarian. The tumour increased rapidly while the patient was under observation, ascites made its appearance, and the general health visibly declined. It was, therefore, thought proper to remove the growth. The operation was performed under thymol spray; but the antiseptic precautions were not completely carried out, and the wound did not remain aseptic. The operation was a very long and difficult one. The incision necessary extended from near the ensiform cartilage to the neighbourhood of the pubes. There were extensive adhesions on every side, the omentum giving especial trouble. The pedicle was formed of the cervix uteri; stout plaited silk was passed twice round it and tied tightly; but this was found insufficient to prevent the risk of hemorrhage, and the pedicle was therefore transfixed with a strong pin, and another ligature put round it at the point of transfixion, and its ends twisted round the pin. The right ovary was removed with the tumour; the left did not present itself. A glass drainage-tube, four inches long, was secured in the lower angle of the wound so as to reach into the pelvis. Much blood was lost during the operation, and at its conclusion the patient was at the point of death from exhaustion. The pin with the slough of the pedicle separated on the eleventh day. The patient's recovery was interrupted by many untoward symptoms; excessive vomiting during the first eight days; aphthous ulceration of the mouth and fauces from the third to the eighth days; fetid vaginal dis-

charge from the sixth day to about the fifteenth; much pain and sleeplessness. After the twentieth convalescence went on rapidly. The tumour weighed 14 pounds, and was a large myoma, occupying the upper and anterior wall of the uterus. Dr. Stoker considers that the case affords very substantial testimony to the value of the drainage-tube, without which he thinks the patient would have died.—*Obstetrical Journal of Great Britain*, March 15, 1880.

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On Axial Rotation of Ovarian Tumours, leading to their Strangulation and Gangrene, successfully treated by Immediate Ovariotomy.

At a late meeting of the Obstetrical Society of London (*Lancet*, March 27, 1880) Mr. LAWSON TAIT read a paper on this subject, and reported three cases successfully treated by immediate ovariotomy. The first case of the kind which the author had met with was that of a woman aged forty-eight, on whom he had operated for a femoral hernia, supposed to have been strangulated for two days. The patient died in five days. The autopsy revealed a small ovarian tumour not recognized during life. It was black and gangrenous from twisting of the pedicle.

Of the three cases now recorded, the first was that of a woman forty-six years old. In March last the author diagnosed a small monocystic tumour, probably parovarian. On June 9th she returned with the tumour much enlarged, and suffering from intense abdominal pain. Immediate ovariotomy being performed, the author found the cyst of a black-pearly colour, universally adherent by recent lymph. The pedicle was twisted three or four times. The patient made an uninterrupted recovery, though no Listerian precautions were used.

The second case was that of a woman aged thirty, who had noticed gradual increase of size for nine months. Sudden and violent pain in the abdomen occurred on Nov. 6th, followed by incessant sickness. Ovariotomy was performed on Nov. 17th, with Listerian precautions. The tumour was dark-purple, friable, and universally adherent by recent adhesions. Bleeding was controlled by the application of solid perchloride of iron. The pedicle was twisted twice. The patient survived, but made anything but an antiseptic recovery.

The third case was that of a woman aged thirty-six, who had not menstruated for seventeen weeks, but had noticed an increase of size too rapid for ordinary pregnancy. Intense abdominal pain, followed by sickness, came on on Nov. 11th. Immediate ovariotomy was performed. The uterus was found occupied by a pregnancy of about the fourth month. The tumour was a parovarian cyst of the right side, and was of a pearly-black lustre, and the pedicle was twisted three times. Listerian precautions were used, and the patient made a better recovery than the second case, but not so good as the first. No symptoms of miscarriage appeared.

In all these three cases the tumour was one of the right side, and the pedicle was twisted from within outwards and to the right side. From this circumstance the author deduced a theory as to the causation of the rotation—namely, that it is due to the alternate filling and emptying of the rectum. The feces descending the rectum would act as a wedge, and the point of application of the force would be the most favourable possible in the case of a right-sided tumour.

Mr. KNOWSLEY THORNTON related several cases in which, on performing ovariotomy, he had found the tumour gangrenous from twisting of the pedicle. He agreed with the author that immediate ovariotomy should be performed when symptoms arise leading to a suspicion of such a condition. In some cases, however, the necrosed tumour, being excluded from septic influence, remained quiescent for a considerable time.

Mr. SPENCER WELLS thought that it was easy to account for the rotation of the tumour by the patients' changes of position. Moderate degrees of twisting were often found without any gangrene being produced. He had seen two patients who died suddenly from very profuse bleeding within the cyst, without its rupture, the pedicles being found twisted. Last year he had removed by ovariotomy a cyst necrosed from twisting of the pedicle, which had been supposed to be malignant on account of the pallor of the patient. She recovered perfectly.

Dr. BANTOCK had recently met with two cases in which small tumours were found with twisted pedicles. Both tumours were found adherent, and both patients had been attacked by sudden pain, followed by symptoms of peritonitis. He thought that the twisting produced no symptoms, but that the rupture of a bloodvessel was indicated by an attack of pain.

Mr. LAWSON TAIT, in reply, said that he hoped that Mr. Thornton and Mr. Wells would publish their cases, with specific details. The rotation could not be accidental, as held by Mr. Wells, if the great majority of the tumours twisted were right-sided tumours, and the twist in a specific direction.

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A Case of Ovariotomy performed during the Sixth Month of Pregnancy without Interruption to Gestation.

Dr. ALFRED L. GALABIN, Assistant Obstetric Physician and Joint Lecturer on Obstetrics to Guy's Hospital, reports (*British Med. Journal*, March 13, 1880) the following case:—

Mrs. L., aged 29, first consulted me on June 14, 1879, on account of rapid enlargement of her abdomen during the last two months. She was then under the care of Mr. Powles, of Shepherdess Walk. She had had two children, and no miscarriages. After each delivery she thought that a lump had remained on the left side of the abdomen; but this had not been observed by her medical attendant. The last child was born in September, 1878, and died in January, 1879, having been suckled until its death. The distension of the abdomen was now much greater than at the full term of the previous pregnancies; and she was uncertain whether she was pregnant or not, having felt no fœtal movements, and having had no sickness nor other subjective signs of pregnancy. Menstruation had not recurred since the last delivery. After her first delivery she had suckled the child for eleven months; and the second child had been born when the first was fifteen months old.

On examination, it was found that the abdomen was enormously distended, and its surface, from the umbilicus downwards, was extremely œdematous, so that the superficial tissues were increased in thickness to at least three inches. An uniform and distinct fluid thrill could be felt over the whole surface of the abdomen. On vaginal examination, the cervix was found to be closed, but appeared to be softened, as in pregnancy. The resistance of the anterior vaginal wall resembled that produced by the presence of the pregnant uterus. The condition of the breasts also appeared to indicate pregnancy. No fœtal movements were felt either from the abdomen or by vagina, and no fœtal heart-sounds nor uterine souffle could be heard. On bimanual examination it was found absolutely impossible to define the size of the uterus or to ascertain the level of the fundus by the impulse communicated to the cervix. The urine was free from albumen, the legs were not œdematous, the temperature was normal, and the general health pretty good.

I considered the probable diagnosis to be that of an ovarian cyst combined with pregnancy; and, from the fact that no fœtal heart sounds nor fœtal movements could be made out, I thought that the pregnancy could not exceed four or five months in duration, conception having probably occurred soon after the death

of the last child, and within five months after its birth. Since, however, the great œdema prevented the uterus from being defined bimanually, I considered the differential diagnosis from hydrops amnii not quite certain. The œdema of the abdominal wall made it evident that some interference would soon be necessary. I thought that, if the case should turn out to be hydrops amnii, the puncture of the uterine wall in tapping would not be without risk, although the operation has been performed without fatal result in some cases in which hydrops amnii has been mistaken for an ovarian cyst with pregnancy. (See a case reported by Dr. Kidd to the Obstetrical Society of Dublin, *Obstetrical Journal*, December, 1878.) I was, therefore, inclined to recommend an exploratory incision with antiseptic precautions, to be followed by ovariotomy if an ovarian cyst were found to exist.

Three days later the patient was attacked with general abdominal pain accompanied by dyspnœa.

On June 20th I was sent for to see her at home. I found her sitting up in a chair, the dyspnœa preventing her from lying down even at night. The œdema had now extended further over the abdomen, and the skin was reddened on the surface. The legs were also œdematous, and the urine contained a considerable proportion of albumen. There was much abdominal tenderness, and the temperature was 101.3° F., pulse 120. On examination under chloroform fœtal movements were distinctly felt from the vagina. Even under the anæsthetic the finger could not be passed into the cervix, nor could the height of the fundus be made out.

Feeling now pretty certain, from this condition of the cervix, that the case was not one of hydrops amnii, I advised tapping for immediate relief. This operation was performed under carbolic spray the same evening, and twenty-one pints of fluid were drawn off. The fluid was of specific gravity 1007, pale and slightly glutinous, containing a moderate quantity of albumen. Towards the end some soft flaky material escaped through the canula. After removal of the fluid, the fundus of the uterus was found to reach close up to the umbilicus, and the fœtal heart could be heard. The date of pregnancy was estimated at about five months. Judging from the date of the subsequent delivery, it must then have been about seven days short of five calendar months. On microscopic examination of the fluid withdrawn, numerous clusters of cells of irregular shape were found, apparently indicating the existence, in the interior of the cyst, of papilloma with proliferating epithelium, and therefore of a tendency towards malignancy. The patient was much relieved after the tapping; the albuminuria and œdema disappeared, and the febrile symptoms gradually subsided, although tenderness of the abdomen continued for some days. Immediately after the tapping the fœtal movements became at once distinctly perceptible to the patient, and appeared to her to be stronger than was usual at the fifth month of pregnancy.

On July 4th there was found to be again a considerable increase in the distension of the abdomen, and fluctuation was again perceptible over a considerable surface, chiefly toward the upper part of the abdomen. On account of the microscopic characters of the fluid withdrawn at the first tapping and the great activity of the cyst, as shown by the rapid re-accumulation of fluid, I decided to recommend ovariotomy in preference to repeated tappings or the induction of premature labour. It was, however, to be expected that the operation would prove formidable on account of the stage of pregnancy which had been reached, in conjunction with the adhesions which the recent attack of peritonitis had probably left.

I performed the operation under carbolic spray on July 7th, when the patient must have been about ten days advanced in the sixth calendar month of preg-

nancy. The fundus uteri being felt nearly up to the level of the umbilicus, the incision through the abdominal wall was so made that its lower extremity corresponded with this spot. On tapping the cyst about eight pints of fluid were drawn off. The fluid on this occasion was not pale, but was stained by blood-pigment to a deep reddish-brown. The whole interior of the cyst was covered by papillary growth, and very vascular adhesions were found connecting it with the abdominal walls, the pelvic brim, and the uterus. The attachment, situated on the right side, was very broad, and had to be tied in sections with carbolized silk as closely as possible to the angle of the uterus. On cutting away the tumour, several small cysts, containing soft putty-like material, and covered, like the large cyst, with a papillary growth, were laid open. In order to remove the whole of the papillary surface, it was necessary to cut away the stump with scissors uncomfortably close to the ligatures, less than a quarter of an inch of tissue being left beyond them. After removal of the cyst, great difficulty was found in arresting the bleeding from the very vascular tissue of the uterus and its neighbourhood, and numerous ligatures of fine carbolized silk were applied to the bleeding points. Eventually, as blood was found repeatedly to well up from the right groin, the pedicle, which had retracted deeply, was brought into view again with some difficulty; and, as some oozing was taking place from it, an additional ligature was placed round its whole circumference. No drainage was employed, the abdominal wound being closed by silkworm-gut sutures. The operation had lasted an hour and three-quarters; and, before its conclusion, it proved necessary to replenish the boiler of the steam-spray apparatus which was in use, the wound being, of course, meanwhile suitably protected. In order to avert a miscarriage, if possible, one-third of a grain of acetate of morphia was injected subcutaneously immediately after the operation, and the same dose was repeated three or four times a day for the next few days.

On July 8th the patient appeared in fair condition; the temperature being 98.9° F., pulse 112. The morphia injections produced a considerable feeling of *malaise*, and appeared to cause vomiting. This effect was only slightly mitigated by the subsequent addition of atropine to the injections.

On the 9th the temperature was 97.2° F., pulse 106. No pain was felt in the abdomen, except when the child moved. The patient was chiefly troubled by a swollen face, the result of decayed teeth, the swelling having existed at the time of the operation.

On the 10th there were slight symptoms of peritonitis, the abdomen being painful and tender; and the temperature had risen to 101.2° F., pulse to 120. Next day these symptoms had subsided, the temperature had fallen to 99°, and no threatening of labour occurred. When the sutures were removed on the seventh day, the whole wound was firmly united.

The patient did extremely well until the fifteenth day after the operation, and had already dismissed her nurse, when she was suddenly attacked by phlegmasia dolens of the left leg, accompanied by induration in the course of the femoral vessels from the groin to the popliteal space. There was considerable fever for several weeks, the temperature rising as high as 104° F., and she became much emaciated. No miscarriage, however, occurred. I was absent from England at the time of this illness, and did not see the patient again till September 7th. The swelling of the leg and fever had then subsided, but there was still great stiffness of the thigh and knee, with tenderness and induration in the course of the vessels. From this time she gradually improved, and, during the last month of her pregnancy, had very good health. A living female child was born on October 27th. Labour lasted three days, chiefly through prolongation of the first stage. Mr. Powles was contemplating the application of forceps, but delivery

eventually took place naturally. The former labours had been normal. A month after delivery the patient was found to be in fair health. The cicatrix of the abdominal incision was quite firm, and there was no trace of pelvic induration, nor any indication of recurrence of growth in a malignant form. She still remains in good health, except that she has a little pain in the leg, and the baby is doing well.

Microscopic sections of the cyst after removal showed that its internal surface was everywhere covered with villous papillæ. Their epithelial covering was mainly of the columnar type, but was proliferating into tufts of irregular cells easily detached. In many places the papillæ did not project freely into the cyst, but the surface was levelled by a layer of *débris* of blood and cells, similar to that often seen on the surface of a vegetating epithelioma of the cervix uteri. Beneath the papillæ was a layer of gland-like tissue, varying in depth from one-eighth to one-fourth of an inch, and evidently formed by the ingrowth of the depressions between the papillæ. Its histological structure was identical with that of columnar epithelioma, except that it was sharply limited at a very short distance from the surface. The epithelial lining of the glandular acini was mainly of a columnar type, but proliferating irregularly; and in many places the epithelium was growing in the form of prominences into irregularly dilated acini, the cells here being chiefly rounded. The fibrous stroma was infiltrated with nuclei in the immediate neighbourhood only of the glandular tissue. At a few points epithelial cells were seen in the stroma resembling those in the acini immediately adjoining.

Remarks.—The tolerance of the uterus in this patient, notwithstanding the very protracted operation, and the high fever produced by the attack of phlegmasia dolens fourteen days afterwards, appears to be remarkable. It would seem that in most, if not in all, recorded cases in which ovariotomy or similar operations have been performed at a later stage of pregnancy than the fourth or fifth month, premature labour has followed sooner or later. Thus, of the cases recorded by Mr. Spencer Wells in 1877 (*Obst. Trans.*, vol. xix.), in one (Case 6), ovariotomy was performed about the end of the sixth month, labour followed the day after the operation, but the patient recovered; in a second (Case 7), the operation was performed in the sixth month, the fœtus was expelled six hours after the operation, and the patient died; in a third (Case 9), the operation was performed in the sixth month, and the patient recovered, but premature labour came on twenty-five days after the operation. In a case mentioned by Mr. Lawson Tait (*Obst. Trans.*, vol. xix.), ovariotomy was performed in the seventh month, premature labour occurred on the sixth or seventh day, and the patient died a few hours afterwards. In a case recorded by Dr. Wilhelm Baum (*Berliner Klinische Wochenschrift*, 1877), ovariotomy was performed antiseptically about the end of the fifth month of pregnancy, miscarriage followed the day after the operation, and the patient had severe symptoms ending in a pelvic abscess, but ultimately recovered. Again, in the remarkable case of hydatids of the omentum, which simulated an ovarian tumour, and were removed by Mr. Knowsley Thornton in the seventh month of pregnancy, labour came on on the eighth day, the wound having opened after removal of the sutures on the seventh day. The patient ultimately recovered. (*Medical Times and Gazette*, November 16, 1878.) And in a case of fibroid outgrowth from the uterus, also mistaken for an ovarian tumour, and removed by Mr. Knowsley Thornton between the seventh and eighth months of pregnancy, delivery took place on the night after the operation, and the patient died on the fifth day. (*Obst. Trans.*, vol. xxi.)

It is difficult to trace a direct causation for the phlegmasia dolens by which my patient was attacked fifteen days after the operation. If there had been any

access of septic material, notwithstanding the carbolic spray, she would not have progressed so favourably for fourteen days after so severe an operation; and if the starting point were inflammation near the pedicle, set up by the presence of the ligatures, it might have been expected that the right leg, and not the left, would have been affected.

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Oöphorectomy.

At the recent meeting of the Society of German Naturalists, in the Gynæcological Section, Prof. A. HEGAR, of Freiburg, read a paper on what he terms castration, but what is generally known as Battey's operation. He reports forty-two cases, an unusually large number, but which may be accounted for by his having many patients sent to him from a distance.

He divides his cases into five groups, the first of which includes thirteen cases, all of small tumours. He remarks that the line between ovariotomy and castration is very hard to draw; the indications and the steps of the operation when the tumour is small resembling very nearly castration. He has, therefore, included all cases where both ovaries were removed, and where they did not exceed a billiard-ball in size. The tumours were cystomata, dermoids, parovarian and the so-called tubo-ovarian cysts; both tumours being of the same variety or were in combinations. There were some cases of tubo-ovarian cysts, hydrosalpinx with adhesions of the fimbriæ to the degenerated ovaries. These were all double and complicated with extensive adhesion, and depended on inflammatory process in the pelvis. Other complications in this group were congestion of the uterus and retroversion. As a diagnostic mark between a uterine fibroid and a small ovarian tumour adherent to the uterus, he proposes a forcible attempt at separation by the finger in the vagina, in which a sort of fremitus can be appreciated from the yielding adhesions. These cases he considers as extremely difficult, the operation fully equalling an extremely complicated ovariotomy. There were two deaths, one from sepsis and one from incarceration; eight were fully cured, and three still complained of pains in the pelvic regions. The second group included twelve cases of fibromata. The tumours were not very large, not reaching above the umbilicus, excepting one only, which reached great size. He considers castration in the case of very large tumours to be of very doubtful propriety. There were three fatal cases—all septic peritonitis. In six cases the menopause ensued, and the tumours shrivelled. In one case included in the first group, there was a fibroid, which also disappeared. In the case of the large tumour mentioned, the flow stopped for six months and the patient improved; but, owing to bad surroundings and hard work, it returned, the tumour grew rapidly, and the patient died eleven months after the operation. Necropsy showed an enormous fibro-cyst. In the third group there are five cases of so-called chronic oöphoritis, cystic degeneration of the follicles with changes in the stroma, but without any neighbouring inflammation. One death occurred from incarceration. In three cases, there was immediate improvement of all the symptoms. The other case was new, but was improving. In the fourth group there were five cases where the indication for the operation was uterine disease, such as incurable retroflexion and acute anteflexion. There was one death from ileus. In two cases menopause occurred with improvement of the symptoms, and two cases are quite recent. The fifth group is of particular interest, including cases of chronic recurring pelvic inflammation, such as perimetritis and parametritis with adhesions, salpingitis, and imbedding of the ovary in firm and solid exudations. The symptoms are always severe. There were seven cases; and notwithstanding that the operations were often difficult and long, there were no deaths.

In three cases there was menopause and cure, in one menopause and great improvement. In another there was a regular typical flow, but great improvement. Two cases were too recent to be judged. The mortality in the cases was only 16.6 per cent. In forty-seven other cases known to the author there is a mortality of 32 per cent. (The average of total deaths was nearly 25 per cent.) Four of the deaths were from septic poisoning, and three from ileus, the strangulation resulting from adhesions. The results were often disturbed in the beginning by symptoms similar to those met with at the menopause. The cases seem to prove the old idea of the dependence of menstruation on ovulation. In twenty-six of the thirty cases, the menopause was complete, in only one case there was a typical flow, due perhaps to the periodical congestion of a tender mass of exudation formed around a ligature. Strict antisepsis was used except in the first case (fatal), but not according to Lister's method. The spray he considers harmful.

The opening in the abdomen, he considers, has to be made proportionately larger than in ovariotomy, generally the introduction of two fingers is enough. Great care is needed in putting on the ligature and in closing the abdominal wound, so as to avoid abscesses.

In the discussion which ensued, Dr. Schröder of Berlin reported two cases. He operates by laparotomy and uses spray, and has seen no bad results from it. Dr. Freund of Strasburg reported three operations for myomata, and one for hystero-epilepsy, with one death. Menopause followed in all the cases, and in one only was there no atrophy of the tumour. Dr. von Langenbeck expressed his surprise that absence of the vagina had not been mentioned as an indication for this operation. He reported one such case. Menstruation occurred only once after the operation. Dr. Martin reported three new cases; two for neuralgia. In one case there was incomplete development of the uterus; both ovaries lay on the left. All these cases recovered. Dr. Müller of Bern had operated three times. In two cases the operation was not completed, as the ovaries were very adherent. The third case, ovarian neuralgia, was cured. Dr. Czerny of Heidelberg had three cases, one dying of septicæmia. In one case of hysteria, with enlarged ovaries, there was no improvement. In the other case (hysteria, with retroflexion) he had done Kœberlé's operation at the same time. He had also twice removed the uterus without the ovaries, with the result of stopping all flow. (*Centralblatt für Gynækol.*, No. 20 and 22, 1879.) In No. 20 of the same journal, A. Schücking of Harzburg reported another successful case. (See *Amer. Journ. of the Med. Sciences*, Jan. 1880, p. 286.) In the *British Medical Journal* for May 24, 1879, Prof. A. R. Simpson reports a successful case of castration, or, as he called it, oöphorectomy. His case was one of dysmenorrhœa, with ineffectual division of the cervix uteri and pelvic inflammation; "senescence" followed. After giving the history of his case, he gives a long commentary, with a table of thirty-five cases where both ovaries were removed. He gives the credit of having brought forward and popularized the operation entirely to Dr. Battey, as well as of having independently conceived and performed it. He gives as the indications, dysmenorrhœa, menorrhagia (from fibroids), amenorrhœa from absence or atresia of the vagina, and complicated with either threatened insanity, hystero-epilepsy, or convulsions. The mortality in his cases is 37.1 per cent. He prefers laparotomy to elytrotomy, and uses carbolized silk ligature, and then cuts the pedicle.

Besides the cases given above, the reporter (*American Archives of Medicine*) has collected a number of cases, some of which have been published and a few are new.

Operator.	Total.	Laparotomy.		Elytrotomy.		Reference.
		Recoveries.	Deaths	Recoveries.	Deaths	
Hegar	42	35	7	..	..	Centralbl. f. Gyn. No. 20, 1879.
Schroeder . . .	2	2	..	..	..	Ibid.
Freund	4	3	1	..	..	Ibid.
Von Langenbeck .	1	1	..	..	..	Ibid.
Martin	3	3	..	..	..	Ibid.
Muller	3	3	..	..	..	Ibid.
Czerny	3	2	1	..	..	Ibid.
Schucking . . .	1	1	..	..	..	Ibid.
Battey	12	2	..	8	2	Trans. Am. Gyn. Soc., vol. i.
Trenholme . . .	2	1	..	1	..	Ob. Jour. Gr. B. & I., 1876.
Goodell	5	..	1	3	1	Lessons in Gynæcology.
Sims	7	2	1	4	..	Brit. Med. Jour., Dec. 8, 1877.
Engleman . . .	3	..	3	..	..	Am. Jour. Obstet., vol. xi.
Thomas	2	1	1	..	..	Trans. Am. Gyn. Soc., vol. i.
Peaslee	1	..	1	..	..	Ibid.
Sabine	1	1	..	..	..	N. Y. Med. Jour., Jan. 1875.
Von Nussbaum .	1	1	..	..	..	Dr. Goodell, loc. cit.
Tauffer	1	1	..	..	..	Centralblatt f. Gyn., 13, 1879.
Netzel	1	..	1	..	..	Ibid. 14.
Pernice	2	2	..	..	..	Arch. f. Gyn., Bd. xiv., H. 3.
Alberts	1	..	1	..	..	Centralblatt f. Gyn., 18, 1879.
Spencer Wells . .	1	1	..	..	..	Am. Jour. Obstet., Oct. 1879.
Simpson	1	1	..	..	..	Brit. Med. Jour., May 24, 1879.
Kaltenbach . .	1	..	1	..	..	Hegar, Saml. Klin. Vorträge.
J. Gilmore . . .	1	1	..	..	..	Am. Jour. Obstet., July, 1878.
Martin	2	2	..	..	..	Berl. Med. Wochen., 16, 1878.
Pallen	1	..	1	..	..	Am. Jour. Obstet., July, 1878.
E. Kœberlé . . .	1	1	..	..	..	Nouv. Dict. de Méd. et C. 1878.
W. C. Frew . .	1	1	..	..	..	Am. Jl. Med. Sci., July, 1878.
Prince	1	..	..	..	1	Obstet. Gazette.
Welponer . . .	1	1	..	..	..	Centralblatt f. Gyn., 25, 1879.
Esmarch . . .	1	1	..	..	..	Ob. Jour. G. B. & I., Feb. 1879.
Tait	2	2	..	..	..	Brit. Med. Jour., Nov. 8, 1879.
Goodell	2	1	1	..	..	Personal Communication.
West	1	..	..	1	..	Ibid.
Sims	3	3	..	..	..	Ibid.
Noeggerath . .	10	8	2	..	..	Ibid.
Hunter McGuire .	2	2	..	..	..	Ibid.
	130	86	23	17	4	

Dr. Hunter McGuire of Richmond, Virginia, reports two cases. They were both ovaritis; Lister's antiseptic method and laparotomy were used. "In both cases both ovaries were removed and the pedicles tied with carbolized catgut. The result of the operation in one is eminently successful, while in the other there is a marked and continuous improvement, with a gradual subsidence of all trouble traceable to ovarian sympathy." Dr. Goodell sends two unpublished cases. The operation in each case was begun *per vaginam* but finished by laparotomy. The result in the first case was fatal; the indication was "a womb bulbous and knotty with multiple fibroids." The second case recovered, the indication being "pernicious menstruation and threatened insanity." Dr. Sims has had three cases, all quite recent, and all successful. The indication for the operation in each case was the occurrence of epileptoid attacks. The mode of operating is not mentioned. Dr. Noeggerath has had ten cases, all done by laparotomy. One death occurred from sepsis and one from hemorrhage. Dr. Battey has had three new cases. Dr. Trenholme writes "that the case in which I removed the one ovary is much improved but not well, and as for the other there is nothing new to report."

The total of cases thus collected is 130; of these 104 recovered and 26 died—or a mortality of 20 per cent. The reporter counts Esmarch's case, although it was one of hernia, and also all of Müller's, for although in two of them the operation was not finished, still the danger to the patient was fully as great.

Of the cases operated on by laparotomy, leaving out Dr. Sims's case as uncertain, there was a mortality of 20.7 per cent. The cases by elytrotomy show a mortality of only 19 per cent. Still this apparent advantage is more than counterbalanced by Dr. Goodell's experience, where in two cases he was unable to reach the ovaries after opening the vagina, but had to increase the danger by making a second incision

Later reports from Drs. Sims, Goodell, and West, show that all their cases, classed above as doubtful, have recovered. This will bring down the death-rate somewhat.—*London Med. Record*, March 15, 1880.

Medical Jurisprudence and Toxicology.

Recovery from Opium Poisoning.

The recovery of an infant after a large dose of opium is so rare as to deserve notice. An instance lately brought before the Académie de Médecine is one of the most remarkable on record. A teaspoonful of "laudanum de Sydenham" was given to a child three weeks old, in mistake for syrup of chicory, which had been prescribed for constipation. The mistake was made at 9 A. M., and was immediately discovered and an emetic given without effect. M. NICHOLAS, who records the case, saw the child soon afterwards, and ordered sixty grammes of a decoction of galls, and coffee in abundance. The first symptoms presented themselves two hours later, and consisted in somnolence and evidence of nausea, accompanied by tonic convulsions, after which the child passed into a state of prostration or rather of complete inertia, which continued during the day. The convulsive attacks were brought on by every attempt to administer a liquid by the mouth, and gradually became more frequent and severe. Even the heart ceased to beat during the syncopal condition which succeeded the attacks of convulsion. As long as they continued there was neither vomiting nor action of the bowels, nor was any urine passed during the first twelve hours. During the attacks of syncope, artificial respiration was kept up. Twenty times the child was thus apparently kept from immediate death. At 7 P. M. the somnolence appeared to diminish; the child opened its eyes and looked around. The next day witnessed a marked reaction; the pulse rose to 180, and in the afternoon a little milk, with a few drops of brandy, was swallowed. The following morning the child was sufficiently recovered to take the breast, and on the fourth day was well.—*Lancet*, March 13, 1880.

MEDICAL NEWS.

Colour-Blindness and Railroad and Steamboat Employés.—The Connecticut legislature has recently passed an Act authorizing the State Board of Health to prepare rules and regulations for the examination of railroad employés in regard to colour-blindness. Every company in the State is obliged to hold such examinations on or before the 1st of October.

The U. S. Treasury Department has also recently issued an order requiring pilots to be examined for colour-blindness before receiving licenses. These examinations are made gratuitously under the direction of the U. S. Marine Hospital Service.

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A Four Years' Medical Course.—Harvard University announces that hereafter the course of study in the Medical Department recommended by the Faculty covers fours years, but until further notice the degree of Doctor of Medicine will continue to be given upon the completion of three years of study. All candidates for admission who hold no degrees in arts or science must pass a written preliminary examination in English, Latin, Physics, and any one of the following subjects: French, German, Elements of Algebra or Plane Geometry, Botany. The admission examination will be held June 28th at Boston, Chicago, and Cincinnati; on September 27th at Boston only. The collegiate year extends over nine months, beginning September 30th.

It is stated that the College of Physicians and Surgeons, New York, intends to extend its next winter course to seven months.

—

International Medical Congress of 1881.—The preliminary steps are now being taken to hold an International Medical Congress at London, between the 4th and 15th of October in the year 1881. The committee encharged with making the necessary arrangements consists of delegates from the Universities, Colleges, and various Medical corporations of Great Britain.

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Meetings of Medical Societies.—The following State Medical Societies will hold their annual meetings in June:—

West Virginia Medical Society, at Parkersburg, June 2.

Massachusetts Medical Society, at Boston, June 9.

Minnesota Medical Society, at Albert Lea, June 15.

New Hampshire Medical Society, at Concord, June 15.

Ohio Medical Society, at Cleveland, June 15.

There appears to have been considerable misapprehension as to the day of meeting of the Kentucky State Medical Society. It is now authoritatively stated that the Society will convene at Lexington on the 19th of May, and not on the 4th, as has been heretofore announced.

The annual meeting of the American Medical Association will be held at New York, June 1st.

The American Neurological Association will meet in the same city on the 15th of June.

The Sixth International Congress of Ophthalmology will meet this year at Milan on the 1st of September, and continue in session four days. The address

of the Committee of Organization, of which Prof. Quaglino is president, is Via S. Andrea, 13. Milan.

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Dust Workers.—The prevalence of phthisis among artisans who are engaged in dusty occupations is well shown in a series of observations made in the hospitals at Breslau and Würzburg, quoted in the *Times;* the percentage of cases being classified as follows: Of those who work in metallic dust, the percentages were, needle-polishers, 69.6; file-cutters, 62.2; lithographers, 48.5; sieve-makers, 42.1; grinders, 40.4; compositors, 36.9; watchmakers, 36.5; type-founders, 34.9; engravers, 26.3; dyers, 25; varnishers, 25; painters, 24.5; printers, 21.6; beltmakers, 19.7; tinkers, 14.1. Of those who work in mineral dust: flint-workers, 80; grindstone-makers, 40; stonecutters, 36.4; plasterers, 19; porcelain-makers, 16; potters, 14.7; carpenters, 14.4; masons, 12.9; diamond-cutters, 9; cement-makers, 8.10. Of those who work in vegetable dust: cigar-makers, 36.9; weavers, 15; rope-makers, 18.9; millers, 10 9; bakers, 7; chimney-sweepers, 6.5; coal-miners, 0.8. Of those who work in animal dust: brushmakers, 49.1; hairworkers, 32.1; upholsterers, 25.9; fellmongers, 23.2; turners, 16.2; hatters, 15.5; button-makers, 10. Of those who work in mixed dust: glass-cutters, 35; glass-makers, 17.8; labourers, 15.1.—*British Med. Journal*, Jan. 31, 1880.

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An Improved Nitrate of Silver Caustic.—Dr. SAWOSTIZKI (*St. Petersb. Med. Woch.*, March 25, 1880) called the attention of the Moscow Surgical Society to an improvement in the preparation of sticks of nitrate of silver. It consists in melting together five parts of nitrate of silver with one part of nitrate of lead, forming an argentum plumbo-nitricum. Sticks formed of this are preferable to those of the ordinary nitrate, as they are not easily broken, and can be pointed just like a lead pencil.—*Med. Times and Gaz.*, April 3, 1880.

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Graduates in Medicine in 1880. (*Continued from* p. 252.)

College of Physicians and Surgeons (New York). . .	117
College of Physicians and Surgeons (Baltimore) . . .	110
University of Maryland (Baltimore)	66
National Medical College (Washington)	8
Chicago Medical College	37
Medical College of Indiana (Indianapolis) . . .	61
Central College of Physicians and Surgeons (Indianapolis).	12
Medical College of Evansville, Indiana	5
College of Physicians and Surgeons (Kansas City) . .	17
Atlanta (Ga.) Medical College	48
University of Louisiana (New Orleans)	49

Making with the graduates reported last month a total of 1932 in the United States.

McGill University (Montreal)	30
University of Bishop's College	6

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Jefferson Medical College, Philadelphia.—At a meeting of the Board of Trustees of this Institution, held on the 12th ult., HENRY C. CHAPMAN, M.D., was unanimously elected Professor of the Institutes of Medicine and Medical Jurisprudence, to succeed the late Dr. J. Aitken Meigs. Dr. Chapman is a grandson of the distinguished Dr. Nathaniel Chapman; he is well known as an ardent student of comparative anatomy, and has been a frequent contributor to the Proceedings of the Academy of Natural Sciences; he is the author of a

volume on the "Evolution of Life," which was published in 1873, and elicited very favourable criticism. He now occupies the chair of Physiology in the Pennsylvania Dental College, and during the past winter he completed the late Prof. Meigs's course on Physiology at the Jefferson College to the great satisfaction of the class.

The Board of Trustees have also elected Dr. William Thomson Honorary Professor of Ophthalmology.

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The Louisville Medical Schools.—The Louisville Medical Schools have agreed to advance their fees to seventy-five dollars, exclusive of matriculation, demonstrators, and diploma fees. It is reported that important regulations in regard to the time of actual attendance, the date of issuing tickets, etc., have been made.

—

Southeast Missouri Medical Association and Higher Medical Education.—This society at its last annual meeting adopted, by unanimous vote, the following resolutions:—

Resolved, That the Southeast Missouri Medical Association cordially indorses the action of Harvard Medical College, Bellevue Hospital Medical College, Medical Department of Yale College, Medical Department of University of Pennsylvania, Georgetown Medical College, and the Chicago Medical College, in their endeavors to elevate the standard of medical education by making a preliminary examination and a three-year course the requisite to graduation.

Resolved, That no member of this Association should receive any student unless said student first pledges himself not to enter any medical college in the United States, except those requiring a preliminary examination and a three-year course of graded instruction.—*Med. Record*, Dec. 13, 1879.

—

Transfer of the Library of the Medico-Legal Society to the New York Academy of Medicine.—The Committee of the Medico-Legal Society appointed to consider the advisability of the transfer of the library presented a favourable report, the consideration of which was postponed until the next meeting. The library is said to be the largest, with two exceptions, of its kind in this country.

—

Literary Notes.

The New Sydenham Society announces the fifth volume of Hebra on "Diseases of the Skin," and the third part of the Society's "Lexicon of Medicine and the Allied Sciences," as the first works of the series for 1880.

Henry C. Lea's Son & Co. have just issued Foster's "Physiology," edited by Dr. Edward T. Reichert, Demonstrator of Physiology in the University of Pennsylvania, and announce as in preparation a volume on "Electricity in its Application to Practical Medicine," by Dr. Roberts Bartholow, and a treatise on "Preventive Medicine," by Dr. B. W. Richardson, of London.

Mr. Presley Blakiston has just published in his series of Health Primers, "Our Homes," by Dr. Henry Hartshorne; and "Sea Air and Sea Bathing," by Dr. John H. Packard. He has in press Wilson's "Domestic Hygiene," edited by Dr. J. G. Richardson, and announces "A Dictionary of German Medical Terms," by Dr. Fancourt Barnes (to be published in London by H. K. Lewis).

G. P. Putnam's Sons announce "Contributions to Orthopædic Surgery," by Dr. J. C. Hutchison, of Brooklyn; "The Hysterical Element in Orthopædic Surgery," by Dr. Newton M. Shaffer, of New York; and "Ophthalmic and Otic Contributions," by Drs. St. John Roosa and E. T. Ely, of New York.

Mr. F. Leypoldt, of New York, the enterprising publisher of the *Index Medicus*, announces, that, notwithstanding the actual pecuniary loss incurred by the

issue of this journal for 1879, he has determined to continue its publication for another year, in the hope that as it becomes better known to the profession it will receive the liberal support which it unquestionably merits.

The *Index Medicus* is issued monthly, and records the titles of all new publications in Medicine, Surgery, and the collateral branches, received during the preceding month. These are classed under subject-headings, and followed by the titles of valuable original articles upon the same subject, found, during the like period, in medical journals and transactions of medical societies. The periodicals thus indexed comprise *all* current medical journals and transactions of value, so far as they can be obtained. The compilation is under the supervision of Dr. John S. Billings, and Dr. Robert Fletcher, of the Library of the Surgeon General's Office, and their names are a guarantee of the ability and thoroughness with which the work is done.

It is superfluous to speak of the value of a monthly classified record of the current medical literature of the world, and its permanent establishment deeply concerns every student, thinker, and writer in the profession.

We trust that Mr. Leypoldt's appeal may meet with a cordial response in an enlarged subscription list, without which the permanence of the Index cannot be hoped for.

—

Resolutions of Respect to the Memory of the late Dr. Isaac Hays.—At the Tenth Annual Meeting of the Alumni Association of the Medical Department of the University of Pennsylvania, held March 15, 1880, the following resolutions were adopted:—

Resolved, That in the death of Dr. ISAAC HAYS, the late venerable editor of The American Journal of the Medical Sciences, and recently Vice-President of this Society, we mourn the loss of the most distinguished of the then living University Alumni, and one of the most revered and valued members in the world of the profession, whose best interests he so ably and faithfully defended and advanced.

Resolved, That the influence and example of his whole course, for more than half a century, of constant editorial, literary, scientific, and professional activity of the highest character, cannot be estimated in their value not only to the profession and its institutions of this country, but of the whole world.

Resolved, That we cherish his memory in common with that of our late president [Dr. George B. Wood] as one of the ablest, earliest, and most powerful advocates of the elevation of the standard of medical education in America, and we derive much consolation from the fact that they both survived long enough to enjoy some measure of reward in the recent advancement of their Alma Mater, and the certainty of progress which was so near to their hearts.

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OBITUARY RECORD.—Died at San Francisco on the 27th of February, aged 74, HUGH HUGHES TOLAND, M.D., Professor of Surgery in the University of California.

Professor Toland was a native of North Carolina, was educated at Transylvania University, and studied in Paris under Roux, Dupuytren, and Lisfranc. He settled in San Francisco in 1853, and soon achieved a large and lucrative practice. In 1864 he founded a medical school, and at his own expense erected the building for the Toland Medical College, which in 1872 he transferred to the University of California, of which the college became the medical department. Dr. Toland was the author of "Lectures on Practical Surgery," published in 1877.

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